An Address
ON THE
SIGNIFICANCE AND VALUE OF TENDON REFLEX.

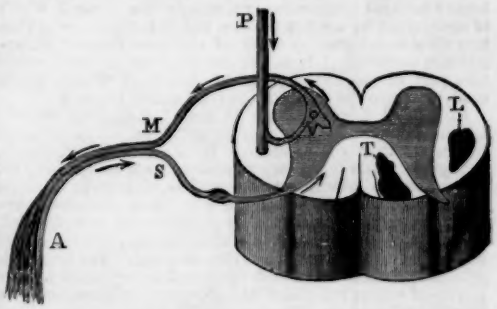
Delivered before the Harveian Society of London, Nov. 3rd, 1887.

BY THOMAS BUZZARD, M.D., F.R.C.P.

MR. PRESIDENT AND GENTLEMEN,—The request from the highest officer in this Society that I would discuss and demonstrate "tendon reflex" at one of our meetings was accompanied by such a strong expression of opinion that the subject could hardly be dealt with in too elementary and general a manner, that I trust to be forgiven if my remarks should appear as they well may to many of you, to contain a too large reference to familiar knowledge. At any rate I shall have the opportunity of demonstrating what I describe upon the many patients who have kindly attended here for the purpose at my request. And there is this to be said in favour of discussion of the subject, that although the practice of testing the "tendon reflexes" has become universal, there is very great room for observation as regards the character of the information which the procedure is capable of affording, both from a diagnostic and also, as it seems to me, from a prognostic point of view.

Let me illustrate upon the healthy living subject some modes of eliciting the knee jerk, and upon a patient the phenomenon of ankle clonus. [Demonstration.] Cases now and then occur in which, owing to there being no concomitant symptoms of disease, a doubt arises whether an observed absence of knee jerk is due to a pathological cause or to some imperfection in the examination. That there is a great danger of fallacy arising from the latter cause I have reason to know, as it has happened to me in a large number of cases to discover the presence of knee jerk, which had been thought to be absent. But there is a far more important proof of the liability to mistake in examination. Various observations of the knee jerk have been made by independent examiners upon large numbers of individuals, and they have put on record that the knee jerk has been absent (not from pathological cause, but as a natural or physiological peculiarity) in a certain percentage of the examined. But this percentage has varied in different hands from $\frac{1}{10}$th per cent. to nearly 5 per cent.—a discrepancy carrying with it, I think, sufficient proof of a very large amount of error of observation. Within the last two years a mode of examination has been introduced which is calculated to reduce this source of fallacy to a minimum. Dr. Jendrassik's method is to direct the patient, seated on a table with the bared legs dangling, to link the bent fingers of one hand in those of the other and pull energetically as though endeavouring to tear them asunder. Whilst this is being done the ligamentum patellæ is struck. One thousand men of different ages, partly sound and partly sick (recognised cases of nervous disease being excepted), were taken, and the state of the knee jerk observed. By the ordinary method nine showed very weak reflex; by the Jendrassik or arm-tension method the contraction in these was always strong. The jerk failed on one side in six; in these it was also weak on the other side; on both sides the contraction could be easily brought out by the arm-tension method. In sixteen cases the reflex could not be got out on either side by the ordinary method. Out of these sixteen, in fifteen he succeeded by the arm method in evoking the reflex, whilst in one he completely failed—but this was a patient with diabetes, in which disease examination shows that the reflex is frequently absent. A method to which I drew attention several years ago is very convenient, and its advantage probably depends upon the same principle as is concerned in the Jendrassik mode—viz., a state of artificially increased muscular tension. The patient (seated) is directed to plant his foot firmly down at such a distance that the leg forms a little more than a right angle with the thigh. Whilst the observer rests the palm of his left hand upon the patient's thigh he strikes the ligamentum patellæ about an eighth of an inch below the knee cap. The quadriceps muscle can be felt, and if the skin is exposed can be seen to contract more or less vigorously in response. I constantly employ this method in the first instance in the case of females, as no disturbance of the dress is required, the contraction of the muscle where the response is present being plainly to be felt through it. But this method, like all the others, is not infallible, and requires checking. As a rule, a percussion hammer is the best means of evoking the reflex; in a small minority this will entirely fail, and then it will probably be found that the ulnar edge of the hand or some still thicker implement will succeed. The method of Jendrassik is calculated to reduce to a minimum the chance of error, and should always be employed before it is finally concluded that the knee jerk is absent in a particular case. To make a mistake on this point is now of much more serious consequence than it was when it used to be believed by some that in a considerable percentage of the healthy the knee jerk is naturally absent. My opinion is, then, that if the most careful examination fails to elicit the knee jerk (there being no structural change or peculiarity about the knee joint itself to interfere with the process) we have to do with something of pathological import. Examination may then show that there are other symptoms which serve to confirm this opinion, or it is possible that absence of the knee jerk may stand alone as evidence of some organic change, either of a temporary or permanent character. After diphtheria, for example, absence of this reflex may be found as the only objective symptom. It is then but temporary in duration.

Or examples of permanent absence may be found. My colleague Dr. Ormerod has kindly allowed me to present to you a brother and sister, members of a family of children numerously affected with Friedreich's or hereditary ataxy. The brother presents, like most of the others, the ordinary symptoms of this singular affection, amongst others absent knee jerks, ataxy of gait, impairment of speech, and lateral curvature of the spine. The girl, on the other hand, who is much younger, shows as yet only one symptom—absent knee jerk. The others will doubtless follow, but at present there is nothing peculiar to be discovered in her except the absence of this reflex. Now, this appears to me to be a very important fact, and suggests the necessity of inquiry into the family history of a person who, without any complaint of illness, is found to have no knee jerks. In such a case as this before us the key to the mystery is to be found in the state of the other children. But it occurs to me that if absence of knee jerk may thus stand alone as the solitary symptom of diphtheritic paralysis and also of Friedreich's ataxy, it may also on occasions be the only symptom of a disease like tabes dorsalis, possibly, but by no means necessarily, to be accompanied later on by other signs of the disorder.



Before proceeding further on the subject of the clinical significance of tendon reflex, let me explain the very rough diagram before us. (See woodcut.) In this scheme it is intended to illustrate in the simplest way a supposed mode of reflex in the spinal cord, as also the manner in which this is held in check, as it were, by an influence descending from the cerebral cortex through the pyramidal tract to the large motor cells in the anterior horn of the cord. The idea intended to be conveyed is this. When the ligamentum patellæ (A) or analogous structure—periosteum or fascia—

is mechanically irritated, an impulse is conveyed by the posterior or sensory root of a nerve (S) to the spinal cord, where it is transmitted to ganglionic cells in the anterior horn, and causes an impulse to be conveyed to the quadriceps muscle by the anterior (motor) root of nerve (M). The arrows indicate then a reflex arc which begins in the tendo-muscular tissue, passes through the posterior root to the cord, and on through the ganglionic cells to the muscle. The extent to which the answering contraction of the muscle takes place is regulated by the inhibitory influence coming down the pyramidal tract (P), which forms the lateral column of the cord. For the sake of clearness only the crossed pyramidal tract is presented, and this is pictured in the form of a rod instead of a sheaf of fibres. For the same reason the single very large ganglionic cell is intended to stand for the numerous elements of that class in the anterior horn. So simple is this scheme, and so conveniently does it lend itself to explain most of the clinical relations of tendon reflex, that it is unfortunate that considerable doubt must be allowed to exist as to its affording an accurate representation of the process. The time occupied in obtaining a contraction of the quadriceps extensor muscle in response to a blow on its tendon is not much more than one-thirtieth of a second; and this, physiologists tell us, is only about half the time which ought to be taken if we were dealing with a true reflex. Moreover, Dr. Waller has pointed out that the time occupied is the same as that required if the muscle be *directly* struck upon its fibres, so that there is no allowance for that occupied in the transmission of the impulse along the nerves. In spite of this, there are reasons (and especially the clinical facts connected with the phenomenon) which should make us cautious, I think, in altogether rejecting the reflex theory until a satisfactory alternative presents itself. I do not myself find this in the hypothesis of a locally induced contraction in a muscle the tonus of which is maintained by a reflex process, but it is right to say that this view is accepted by many of the most eminent authorities in neurology. It is not proposed to go further into this part of the subject, the discussion of which would easily embrace the whole of the time at our disposal.

In general terms, absence of knee jerk signifies organic lesion either of muscle, peripheral nerve, or spinal cord in its lumbar enlargement. It may, however, result, though only as a temporary condition, from an epileptic fit, an apoplectic seizure, or the action of certain narcotic agents. As an example of the first cause, pseudo-hypertrophic paralysis—Duchenne's paralysis—may be mentioned. In this the essential lesion is a muscular one, and the nerves and spinal cord are not necessarily diseased. The knee jerk gradually disappears in such cases, and never returns. The plump of vastus internus does not contract when struck by a percussion hammer. The so-called Thomsen's disease is likewise probably a primary affection of the muscular system, but this is not certain. As a rule the knee jerks remain unaltered in this disease, but in one of two cases which have occurred in my practice the knee jerk was entirely absent. Besides these there are certain comparatively rare cases of progressive muscular atrophy in which the lesion is a primary one of the muscular system. It is apt to occur in several members of one family, and is not unfrequently inherited. In such cases the affected muscles lose their faradaic excitability, and the knee jerks are entirely lost.

The knee jerk is almost always lost in peripheral neuritis affecting the lower extremities and after recovery of the patient is regained, although the return is sometimes long delayed. In the great majority of examples of diphtheritic paralysis (which is probably in most cases of neuritic origin) the knee jerk disappears, to return when the patient gets well. It is curious that it may be present for some time after paralytic symptoms have developed themselves, and its absence may continue for a period after the patient thinks himself entirely recovered. Or the loss may occur very early, and occasionally, as I have mentioned before, be found to be the only symptom of this affection. It is very important to remember that the absence of knee jerk is an almost constant accompaniment of diphtheritic paralysis in at least some part of its course. If this be forgotten, there is likelihood of many examples of this affection being mistaken for tabes, owing to the ataxic gait so frequently observed in diphtheritic paralysis. I have seen this mistake made on several occasions, and considering, too, that the knee jerk may, as I have said, still be absent when the patient has nothing to complain of, it is requisite to bear the fact in mind in testing for the sign, and in cases of doubt to inquire for a history of recent sore throat. The absence of knee jerk may thus give valuable evidence of the character of a preceding throat affection, of which no local trace remains, enabling us to say that it must have been due to diphtheria, and not to an innocent cause. So, also, the absence of knee jerk which characterises alcoholic paralysis has often led to cases of that form of peripheral neuritis being mistaken for examples of tabes dorsalis. The presence of ataxy with absent knee jerk should always suggest inquiry for a history of preceding sore throat or alcoholism (where this is at all likely) ere a diagnosis of posterior sclerosis is concluded.

The knee jerk is very frequently absent in diabetes. The absence may in many cases, I feel sure, be explained by the peripheral neuritis which is apt to occur in the course of this disease. Whether or not this is the only cause I do not know. I show you a patient suffering from diabetes, who has to a large extent recovered from an attack of peripheral neuritis affecting the lower extremities, but in whom the knee jerk is still absent. He was exhibited to this Society last year. It is quite likely that in his case the phenomenon may be in time restored. I have seen the knee jerk return after long absence in a case of diabetes. Absence of the knee jerk may, then, usually be expected with confidence in cases of multiple neuritis, amongst which those due to alcohol form the largest portion. As an exception, however, I have seen it present in a case of alcoholic neuritis, and, indeed, somewhat exaggerated. A few cases also are recorded of its exaggeration in other forms of multiple neuritis. It is difficult to explain this, unless we suppose, as regards alcoholic cases, that it is owing to the circumstance of the inhibitory influence of the cortex cerebri being suspended by reason of the local action of the alcohol upon the intra-cranial centres. The knee jerk may be lost in lead paralysis affecting the lower extremities.

In cases of spinal meningitis affecting the lower part of the spinal cord, the inflammatory products deposited about the roots of the nerves within the spinal canal will interfere with the production of the knee phenomenon. We expect, therefore, to find absence of knee jerk in cases of spinal meningitis involving the anterior or posterior roots, or both. We look for its return eventually after complete recovery. Dr. Jackson has pointed out that the knee jerk may disappear also in cases diagnosed as cerebral meningitis. This is no doubt due to the fact that in such instances there is very often an extension of the inflammation from the intra-cranial to the spinal cavity. I have lately seen in consultation with Dr. Briggs of Harrow a rare case of recovery from cerebral meningitis. On my examination nearly two years after the attack the patient's knee jerks were with difficulty elicited until the Jendrassik method was employed, when they appeared distinctly.

In cases where there is inflammation of the sheaths of nerves which constitute the cauda equina the knee jerk is often lost. Such a condition is especially liable to result from rheumatism or syphilis, or in the spread of carcinoma involving sacral and lumbar vertebræ. The knee jerk is lost in the following conditions where they involve the lumbar enlargement of the spinal cord. Amongst the most important acute affections, transverse myelitis, anterior polio-myelitis, compression-myelitis, and softening of the cord. In the chronic may be mentioned, first and most important of all, tabes dorsalis, insular sclerosis, tumour of the cord, and progressive muscular atrophy from chronic polio-myelitis. Where a patient has lost the power of extending the leg upon the thigh, it is evident that, if this be due to organic lesion, it may depend upon disease affecting either the antero-lateral column of the cord, the anterior grey matter of the cord at the point whence the anterior crural nerve is given off, or it may arise from disease of the anterior crural nerve. The knee jerk of itself serves as a test to distinguish the first from the two latter conditions. In the first case it will be found greatly exaggerated, in the latter absent. No doubt we can arrive at the same end by testing electrically the quadriceps extensor group of muscle. In the former case its faradaic excitability will be preserved, in the latter instances either lost or much impaired. The tap upon the tendon gives us the information most readily. But as between the two last lesions the symptom does not help us to distinguish; this must be done by observing whether any sensory phenomena accompany the loss of power, in which case the lesion is not one of the anterior grey matter, or at least not of

that alone. The disappearance of the knee jerk, then, along with paralysis and wasting of the quadriceps extensor, but without sensory phenomena, points to anterior poliomyelitis. Its return under observation is of most favourable import, and in a case of infantile paralysis will enable us, I believe, to assure the anxious parents that the child will at all events recover the power of extending his leg. The converse, however, does not necessarily apply. Its continued absence in such a case is not necessarily significant of continued paralysis. The knee jerk is easily lost; a little thing will interrupt it; and we shall often find a recovery of power which is to all intents and purposes complete, with the knee jerk still absent. This is often seen in old cases of infantile paralysis. One of the lower extremities perhaps is manifestly paralysed to a greater or less extent. The other is represented to be perfectly sound. Nevertheless, the knee jerk is also absent on this side. The limb in question has been originally affected along with the other, but has recovered with only this sign remaining of the trouble which it has gone through. Nor will the behaviour of the knee jerk alone distinguish between anterior polio-myelitis and transverse myelitis at the same part of the cord. It will equally be absent in each.

As a grand general rule, in Pott's disease (caries and posterior spinal curvature) the knee jerks are enormously increased, and there is marked ankle clonus. This is because the position of the lesion is comparatively rarely found much below the mid-dorsal region of the spine. The lesion therefore obstructs the controlling influence which should pass down the lateral column (P in diagram), and the reflex activity of the cord is under no restraint. Occasionally, however, it attacks the lowest dorsal vertebræ, and then the lumbar enlargement of the cord will be affected with transverse myelitis at the point of compression. As the site of origin of the patellar tendon phenomenon will probably be involved, the result will be an absence of knee jerk. So, again, if in a case of paraplegia there is in the first instance a marked increase of knee jerks which in the progress of disease gives place to a more or less total absence of them, it is evidence of extension of a lesion of the spinal cord downwards in the lumbar enlargement. A very strongly marked excess of knee jerk with ankle clonus in a case of paraplegia should always make us instinctively examine the spinal column for Pott's disease. But in view of what I have just said, it is evident that the precaution should not be omitted also when the knee jerk is absent instead of being abnormally lively. The inference is that we ought never to leave this undone. Many cases of Pott's disease are overlooked from neglect of this precaution.

The knee jerk is nearly always absent in tabes dorsalis. Its occasional though rare retention, then usually in an exaggerated form, along with other symptoms which point very strongly to the disease, can be explained by the presence of lateral sclerosis, along with some degeneration of the posterior columns of the cord. I am not aware of having seen the knee jerk restored in a case of tabes, though rare examples of this have been recorded, one notably on the excellent authority of Dr. Gowers; but so very exceptional indeed is this that we are entitled to say that the return of the knee jerk after it has been distinctly absent is almost positive proof that the case in which this occurs is not one of tabes dorsalis.

In the early days of the subject of tendon reflex, the absence of the knee jerk alone used to be not unfrequently considered by some as evidence of the case being one of tabes. At this time of day it is of course unnecessary to confute this fallacy. What is there, then, specially to be noted in reference to tendon reflex and its behaviour in tabes? It appears to me to be this: I show you a patient affected with tabes dorsalis. The knee jerk is entirely absent. Its absence, as we have seen by the scheme, must depend upon lesion either of the muscle, peripheral nerve, or of the cord itself, at the elevation indicated by anatomical considerations. It is not due to lesion of the peripheral nerve, or we should have sensory phenomena with muscular wasting and altered electrical reaction. But here the muscle is quite healthy. Its tone would appear to be perfect, for it can be powerfully contracted by voluntary influence; and a blow on the muscular fibre (not the tendon) produces well-marked contraction. There are no sensory symptoms referable to the anterior crural nerve. We may therefore discharge the muscle and nerve, as there is no evidence against them. And because the muscle is healthy, we may also pronounce the anterior horn of grey matter innocent. There remain the parts into which the posterior root enters—viz., the posterior horn and the postero-external columns of the cord. Whether disease of the posterior horn by itself will interrupt this reflex or not I am unable to say. There is no observation on record, so far as I am aware, tending to prove it. But as regards the postero-external columns of the cord, which probably consists mainly of a portion of the posterior root of nerve going vertically to the grey matter, the evidence is, I need hardly say, abundant as to sclerosis of this part being capable of destroying the reflex in question. We can therefore by exclusion in such a case as I have supposed run the point of lesion to earth in the postero-external column of the cord—the seat of the essential lesion of tabes dorsalis. (See T in diagram. For the sake of clearness the situation of pathological change is indicated on the right side of the cord alone.) It will sometimes happen that a patient who is really affected with tabes dorsalis—unrecognised probably because the ataxic symptom chances to be absent—is said to have suffered from "dreadful sciatica," the prominent symptom in the case being the lightning pains. Examination shows absence of knee jerk. The fact excludes simple sciatica as the cause of the pains, because it is the anterior crural nerve, not the sciatic, which is concerned in the production of knee jerk.

It is right to say that the knee jerk is occasionally lost when there is no reason to suppose lesion of the muscle, nerve, or cord itself at the point anatomically related to this reflex. Its absence has been noted in cases of cerebellar tumour. A few months ago I saw, in consultation with Mr. Ray, a patient whose symptoms pointed distinctly, as it seemed to me, to intra-cranial tumour about the tentorium cerebelli. The knee jerks were entirely absent. Dr. Stephen Mackenzie published some years ago in *Brain* (vol. vi., p. 224) a case of intra-cranial tumour in which the knee jerks were absent. These are examples, and probably proofs, so far as they go, that the reflex may be destroyed in chronic illness by intra-cranial lesions. But they are so very exceptional as to need only the remembrance, not the expectation, of their occurrence. As a grand general rule, absence of knee jerk, when it does not depend upon disease of muscle, points to "spinal" mischief, including under that head the peripheral nerves as well as the spinal cord. In certain acute conditions, again, the knee jerk may be suppressed. Westphal and Gowers have both recorded its temporary absence after a very severe epileptic seizure. I have on a few occasions confirmed its absence in cases of apoplexy, and the same applies to the wrist jerk. In a severe case of left hemiplegia from cerebral hæmorrhage seen recently with Dr. Glover, fifty hours after the attack the right wrist jerk was well marked, the left absent, whilst the knee jerks were normal. This patient is improving. In a desperate case of cerebral hæmorrhage which I saw with Mr. Kesteven, fourteen hours after the attack both knee jerks were absent, and so were the wrist jerks, whilst no pupillary reflex and no superficial reflexes were retained, except that there was a very slight retraction of one foot when it was tickled; death took place a few hours later. On the other hand, I can remember two fatal cases in which the knee jerks were preserved. One, within fifty-four hours of an attack of cerebral hæmorrhage, showed knee jerks equal and normal, whilst the plantar reflex was well marked; death occurred a few hours later. In another, two hours after cerebral hæmorrhage, causing left hemiplegia, the plantar reflexes were equal and normal, the knee jerks present, the right being somewhat stronger than the left; the patient died twenty-four hours afterwards. In a case of left hemiplegia of thirteen days' standing, whilst the left knee jerk exceeded the right, the left wrist jerk was much less than that of the right; there was absolute loss of power in the left arm, with but little paralysis of the left leg. Even from these few examples the inference is clear that we are not at present able to derive any certain prognostic data from the presence or absence of knee jerk in severe cases of cerebral hæmorrhage. We need far more observations on this point, and amongst my audience there are many who could give important help in this direction.

To return, however, to the spinal cord. The knee jerk in the vast majority of cases is exaggerated, and there is ankle clonus in cases of insular cerebro-spinal sclerosis. But it now and then happens in examples of this disease that it is absent on one or other side, there being at the same time ankle clonus in that limb. This condition, which at

first sight appears somewhat paradoxical, is easily explained by remembering that a patch of sclerosis occurring in the lumbar enlargement of the cord at the appropriate level would necessarily, if it involved the anterior grey matter, destroy the reflex, whilst at the same time the patches involving the antero-lateral columns would give rise to ankle clonus, which is dependent upon the functioning of a lower segment of the cord. The existence, then, of ankle clonus whilst the knee jerk of the same side is absent should always lead to an inquiry after confirmatory symptoms of insular sclerosis. Thanks to Dr. Beevor's kindness, I have the opportunity of showing you an example in which this condition obtains, although I am bound to say that by the Jendrassik method a very slight evidence of knee jerk can be sometimes obtained on the left side, from which it is usually apparently absent. Tumour of the cord itself may destroy the knee jerk if it involves the level of the lumbar enlargement anatomically concerned.

In progressive muscular atrophy the behaviour of the knee jerk is not by any means constant. As in the progressive atrophy which originates in the muscular system—the myopathic form—the knee jerks may be expected to be absent when the disease has invaded the quadriceps extensor. But they are often retained, and not infrequently will be found much exaggerated, even though the muscle is greatly reduced in size. This is an indication that along with the atrophy of the large ganglionic cells of the anterior cornu there is at the same time considerable sclerosis of the lateral columns (L in diagram). Dr. Gowers says that he has not yet met with a single case of progressive muscular atrophy of spinal origin in which the pyramidal tracts were unaffected. It is not easy—in fact, I think, it is often impossible—to say, in a given case of progressive muscular atrophy, whether the disease originates in the muscle or in the spinal cord. When, however, along with wasting and changed electrical reaction of the quadriceps muscle there is exaggeration of the knee jerk, we may, for the reasons just stated, be sure that the lesion is a primary one of the cord, and not of the muscle—myelopathic, not myopathic.

I have on many occasions found exaggeration of knee jerk when the quadriceps muscle was not only atrophied and showing reaction of degeneration, but at the same time was flaccid and wanting in tone, the limb consequently exhibiting no signs of rigidity. Such a condition is doubtless exceptional. More frequently, when the lateral columns are sclerosed, there is more or less rigidity of the limb, although the wasting may be considerable. Increased knee jerk and ankle clonus are phenomena of the same order, and may be classed together. They occur when by some cause or other the controlling influence of the higher centres upon the reflex excitability of the cord is suspended temporarily or permanently. Hughlings Jackson and Beevor pointed out the occurrence of ankle clonus in cases of epileptic seizure, and the phenomenon is very frequently observed. It lasts but a few minutes or seconds, and is apparently due to removal of the controlling influence of the cerebral cortex owing to the exhaustion of the nerve cells, the discharge of which constitutes the epileptic seizure. It is probably by the antero-lateral columns that the controlling influence is excited upon the grey matter of the cord. Disease of these columns, then, may be expected to act in a similar manner to suspended activity in the controlling centre; and this is found to be the case. Descending sclerosis of the pyramidal tract secondary to a gross lesion of the cortex gives rise to increased tendon reflex and ankle clonus in the paralysed limbs. A consideration of the diagram (see *ante*) will show that if an obstruction exists in P (the pyramidal tract through which normally the activity of the reflex arc is controlled), exaggeration of the knee jerk may be expected. In the chronic spinal disease called spastic paraplegia, there is sclerosis of the antero-lateral column of the cord on each side (L), with the necessary result that great exaggeration of the tendon reflexes occurs. There is usually some, though a varying, amount of disease of the anterior grey matter of the cord associated with this sclerosis of the white lateral columns, causing a certain amount of muscular atrophy, to be found along with the paralysis and spasticity which characterise the disease, but quite exceptionally the lateral sclerosis exists alone. The prognosis in cases of this kind, whether the atrophy be marked or not, is eminently unfavourable. It is necessary to distinguish from this disease a condition closely resembling it in which the symptoms of lateral sclerosis are not, as in this, of primary origin, but are secondary to a localised myelitis, for in this latter condition recovery not unfrequently takes place. So, again, in the compression-myelitis, which is caused by Pott's disease of the vertebræ, the exaggeration of reflexes accompanying the paralysis is most marked. But, as is well known, these cases are susceptible to a large extent of successful treatment, and along with more or less recovery of voluntary power in the extremities there is diminution in the amount of excessive reflex excitability in the cord. It will happen, for instance, that ankle clonus, which has been a marked phenomenon in an earlier stage, can no longer be induced. The tendon reflexes, however, in these cases do not cease, according to my observation, to show considerable exaggeration long after a fair amount of voluntary power has returned.

We may take it, then, I think, that a persistence of excessive tendon reflex in cases of Pott's disease and of paraplegia secondary to localised myelitis does not, by any means, exclude the prospect of a considerable amount of recovery. So also in the parallel condition which follows an intracranial lesion—the excessive knee jerk and ankle clonus occurring a few days after the attack—this is not incompatible with a practically complete recovery of power in the lower extremity. Here, again, a considerable amount of increased tendon reflex will be found to persist after great recovery of power has taken place. As regards the excessive wrist jerk, the case differs. The persistence of this phenomenon is far more often associated with an enduring loss of power in the arm, and I think it may be said that the continuance and increasing prominence of this symptom gives reason to form an unfavourable prognosis in regard to the amount of recovery which may be expected to take place in the arm. But there are exceptions to this rule, and I have several times seen a persistence of an extremely lively wrist jerk along with a recovery of power of using the hand and arm, which left little to be desired.

In conditions of neurasthenia the tendon reflexes are almost always in excess; and in the functional paraplegia which is so common in this obscure condition of the nervous system, and so much resembles the effects of bilateral sclerosis, there is often an extraordinary liveliness of knee jerk accompanied by ankle clonus. It is remarkable, and, to a certain extent, opposed to the idea that in the tendon phenomenon we have to do with a true reflex, that along with this undue briskness of knee jerk there is very often indeed a total absence of plantar reflex. No movement of the leg muscles occurs when the sole is tickled. So common is this association that I have long been in the habit of urging that in a case of paraplegia without sensory symptoms increased knee jerk with absent plantar reflex should always lead one to suspect a functional condition. It is not conclusive, as in a certain phase of myelitis the same association might be found. Other circumstances, however, and especially sensory and trophic symptoms, would in such a case render confusion impossible. The excess of tendon reflex, which is the rule in neurasthenia, often lends useful aid in the diagnosis of the functional character of certain conditions. A patient, for instance, complains of loss of power in the legs, and asserts that the arms are absolutely normal, and yet we find the same exaggeration of reflex at the wrist as we do at the knee. The inference is that we may, as it were, "discount" the latter, and in practice I have found it safe to do so.

On the other hand, does inequality of tendon reflex on the two sides exclude the diagnosis of functional lesion? This is an important point. I fear that diagnosis cannot receive aid from it. I have seen patients with considerable inequality of tendon reflex recover their health and strength. But I am certainly disposed to look upon a gradually increasing tendon reflex associated with constantly diminishing power as evidence of organic lesion. A very instructive case was lately in hospital. A woman came in complaining of some loss of power in the right leg. The knee jerks were about equal, and there was nothing whatever objective to throw light on the nature of her affection. She had been exposed to great troubles, and her husband was an epileptic. From these and other circumstances I was at first rather disposed to regard the case as one of functional disorder. But gradually the arm lost power, the wrist jerk and knee jerk of that side became excessive, and long before a post-mortem examination confirmed the opinion a diagnosis of gross intra-cranial disease had been made. The state of

reflexes helped us, but was not sufficient of itself to solve the doubt.

To turn for a moment to the converse of this, I am disposed to say that in my experience the knee jerk is never lost in neurasthenia. It is never safe, I am sure, to apply the term "hysterical" or "neurasthenic" to a loss of power in the lower extremities accompanied by loss of knee jerk. Not a few cases of Friedreich's—the congenital form of locomotor ataxy—have been diagnosed as hysterical from failure to note this fact. I examined one such case not long ago, which had been sent to Dr. Playfair to undergo the Weir Mitchell treatment, on the supposition that the condition was hysterical.

ABSTRACT OF

The Lettsomian Lectures

ON

SOME POINTS IN THE SURGERY OF THE URINARY ORGANS.

Delivered before the Medical Society of London,

BY REGINALD HARRISON, F.R.C.S.,

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LECTURE II.

The pathology of the enlarged prostate viewed in respect to its causation and prevention, and the treatment of some complications arising out of it.

MR. PRESIDENT AND FELLOWS,—The causes of hypertrophy of the prostate have formed the subject of much careful observation, and I feel some hesitation in again referring to them. Still on the other hand, though my views may not prove generally acceptable, I am inclined to think that a narrative of the observations upon which they are to a large extent based may serve a useful purpose in indicating lines of thought which may result sooner or later, through the investigations of others, in clearing up doubtful points in the physiology and pathology of this part.

In the first place, I shall speak of the prostate as forming the retentive apparatus of the male bladder, irrespective of any glandular function which it is capable of exercising; and I think that, in the human species at all events, this part may with greater propriety be designated the *prostate muscle* rather than the *prostate gland*, for its intermittent secretory function seems to be subservient to the physical part it is continuously playing as a portion of the retentive apparatus. In support of such a view I would draw attention to Mr. Ellis's important paper in the twenty-second volume of the Royal Medical and Chirurgical Society's Transactions, "On the Muscular Arrangements of the Genito-urinary Apparatus," wherein is remarked, "I would propose the name *orbicularis vel sphincter urethræ* for both the prostate and the prolongation around the membranous urethra, whilst I would confine the old term prostate (without the word gland) to the thickened and more powerful part near the neck of the bladder. This orbicularis may be considered as only an advanced portion of the circular layer of the bladder, though it must have the power of acting independently of the vesical fibres." We have been too much accustomed to regard the prostate, from its post-mortem aspect, as a mass of muscle of the size and form of a chestnut, in which is contained some secreting tissue; but I believe that there are no substantial grounds for concluding that it thus exists during life, except when the bladder is absolutely empty. On the contrary, the muscular fibres are spread out like a funnel, with the apex downwards, so as to form a strong muscular support for the bladder and its varying amount of contents, the degree of expansion being naturally relative to what the viscus may contain; hence prostatic action may be said to be just as continuous as that of the heart. Clinical examination of a healthy person, with varying amounts of urine in his bladder affords no evidence of a contracted prostate; on the contrary, on rectal examination the parts are felt to be disposed in the manner I have indicated. But the retentive function of the prostate may be actually demonstrated after certain surgical operations. Incisions may be made into the male urethra in any part of its course, as far as that point which we are accustomed to call the apex of the prostate, without any incontinence of urine following; this is seen in median lithotomy and external urethrotomy: when, however, the knife impinges to any appreciable extent upon the prostate, as in lateral lithotomy and the modified median lithotomy to which I have recently drawn attention, from that moment incontinence takes place, and continues until the healing process has made considerable advance. This demonstrates not only the habitual function of the prostate relative to the contents of the bladder, but also the unceasing character of its action. I am convinced, by careful digital examination of the prostate in operations on this part, that its more usual condition is one of relaxation, and not of contraction, as we are accustomed to see it when death has taken place. When there are no such physical functions to perform relative to the contents of the bladder, the prostate, as a muscle, so far as I have been able to ascertain, only exists in a rudimentary form. In extroversion of the bladder, where, from the fissured nature of the structures, there is no receptacle for the urine which escapes from the ureter as it is excreted, and there is, from the nature of the parts, no necessity for any provision being made for the collection and retention of that excretion, I have not been able to discover that hypertrophy of the prostate has ever been noticed, and this seems to me to be a point of some significance in connexion with what has been already urged. If the office of the prostate were solely in relation to the sexual act, I cannot help thinking that the pathology of the part would tend to indicate this more than I believe it does. It is not very uncommon to meet in practice with cases of acute suppuration commencing in the follicles of this part, where one would think that irreparable damage must have been done, and yet we have evidence to show that the individual has not necessarily been unsexed by this process, nor can I assert that I have ever extinguished the procreative powers, though for some years in my operations the prostate has been mutilated in varying degrees.

In the next place, I would point out that adult man seems to require some special provision, such as the prostate affords, for the purpose I have just indicated, by reason of the exceptional degree of pressure to which the most dependent portion of his bladder is constantly subjected. And in making use of the words "exceptional degree of pressure," I do so in contradistinction to what is found, so far as I have been able to observe, not only in the animal kingdom, but in other varieties of the human species which are not in exact correspondence with the type I have taken. As demand and supply in the disposition of muscular tissue are proportioned, it seemed to me that we had hitherto failed fully to recognise and appreciate all the circumstances which rendered it necessary that the adult male bladder should be provided with a muscular apparatus of considerable strength at its most dependent point.

In man the perpendicular axis of what I would speak of as "urine pressure" falls directly upon the outlet of the bladder, whereas in the female, not only are there other means of supplying muscular support to the base of the bladder, but, in consequence of the difference of the pelvic organs, a considerable portion of the weight of the viscus, especially in its more extreme degrees of distension, is borne by the pubic portion of the pelvis. Further, allowance must be made in the female sex for no provision being necessary for seminal ejaculation, in which function the muscular fibres of the prostate undoubtedly play an important but occasional part. In the higher mammalia, excepting perhaps in the case of dogs, the prostate is not so largely developed as in man; and Mr. Bland Sutton, whose experience is large, informs me that, except in the doubtful case of dogs, he has never seen an enlarged prostate in an animal. In animals the perpendicular axis of urine pressure does not fall, as in man, on the outlet, but on the parts which support the bladder according to its varying degree of distension. In the dog it is not improbable that the exceptional prostatic development is related to the peculiar condition under which micturition is performed. It appears to me that where the habits of the animal, as observed in some apes and marsupials, necessitate the frequent adoption of an erect position, the males have a much greater development of the prostate muscularly than is usually found in other kinds of quadrupeds; and I should not feel at all surprised if, when

the missing link is discovered, he is found paying the penalty for his assumption of the erect posture by developing in some degree an enlarged prostate.

If the prostate represents the chief means of retention and support for the contents of the male bladder, the circumstances of individual life will sufficiently explain why hypertrophy happens to one person and not to another; it is not met with during those periods of life which are most remarkable for muscular activity and development; on the contrary, it is called into existence where, pathologically speaking, quantity seems to supplement deficiencies in quality: in some it may be exactly compensatory; in others, by excess, it may be detrimental. We have been too much accustomed to regard prostatic hypertrophy as necessarily a morbid and hurtful process, but Sir Henry Thompson's figures show that the larger proportion of persons the subject of it are not affected injuriously by it, and I am disposed to think, from my own examinations, that the frequency of some degree of prostatic hypertrophy is thus rather under- than over-estimated. I can at this moment recall many instances of this in my own practice, where the persons are, in every sense of the word, in the enjoyment of the most perfect health, with an entire absence of any urinary ailment. Quite recently I was asked to examine a gentleman who, in the course of an acute bronchitis, had retention of urine for the first time in his life. This patient had an enormous prostate, which must have been in course of formation for several years. Surely, under these circumstances, in the first instance the hypertrophic change must have been called into existence for a distinctly conservative object, and had been merely disarranged by the violence of the cough from which he was suffering.

In those cases where the prostatic mass is made up of projections having a somewhat lobulated or nipple-like form, the degree of irritation and obstruction is often very considerable, and apparently out of proportion to the cause. These projections I would speak of as being the structural upheavings of a frequently contracting muscular ring, developing in the direction of least resistance, and assuming a more lowly organised form than that which in the first instance was developed, these masses of more or less degenerated prostate tissue subsequently causing much vesical irritation. And this observation, whether a large prostate still remains almost entirely muscular, or has become largely converted into fibrous tissue, has an important bearing in practice in those cases where we have to express an opinion in reference to the probabilities as to whether the use of the catheter will be a temporary or a permanent expedient. Where fibrous tissue predominates largely, the use of the catheter is generally perpetual, but when the prostate is found soft and muscular a complete restoration of function may be anticipated. In early adult life the bladder may be regarded as an abdominal rather than a pelvic organ; as years advance it gradually sinks within the pelvis; whilst, still later on, it will often be found to have become further depressed within the pelvic cavity, giving rise to a prominence of the floor of the prostate due to the depression or partial prolapse of the posterior wall of the bladder. This not only precedes prostatic obstruction, but is followed by the development of a strong muscular buttress between the orifice of the ureters, which in many instances leads to the obstruction of what otherwise would prove, by the sinking of the posterior wall of the bladder, an inconvenient pouch. Thus hypertrophy of the prostate and the adjacent part may not only be due to the natural resistance of urine pressure, but also may be called into existence for the evident purpose of supplementing a structural defect of more or less accidental origin.

In the child and in the adult there are wide differences in the influences that the will exercises upon the merely mechanical act. In the child the process almost approaches the involuntary; whereas in the adult man it becomes much more subservient to the will than perhaps at first sight we should feel disposed to admit; in some individuals, indeed, the function of micturition seems in health but very slightly removed from a purely voluntary act. A medical man nearly seventy years of age, having a very large soft prostate, said he had been in the habit of not passing urine for eight or ten hours; he submitted his bladder to the same degree of urine pressure at seventy as he did when he was twenty-seven. Again, a sea-captain, with a large prostate, had, in consequence of remaining on the bridge of his steamer for long periods of time, acquired a power of retention which had gradually become constant. Nature, in these cases, had substituted quantity for quality, and had made provision against the effects of a muscular strain which could not have been inconsiderable; and we might from our daily practice multiply examples of this kind where persons, so far as was known, were not deriving anything but good from that excess of muscular tissue which we are accustomed to speak of as the prostate gland. If we admit that the muscular fibres, of which the prostate is so largely composed, exercise the function I have urged relating to the contents of the bladder, I do not think we can be at a loss to understand how they become hypertrophied. Let me, however, not be understood as implying that in the human species the prostate has no relation with the sexual act, for evidence is not wanting to show that, both as a muscle and by reason of its glandular element, it exercises purely physical functions with reference to it. As Dr. Handfield Jones says, "Its part in the generative function is probably not to prepare any essential element of the fecundating fluid, but merely an appropriate viscid material involved in which the seminal animalcules may be more securely transported on their destined route."

With a view to the prevention of prostatic hypertrophy and the complications arising out of it, more care should be systematically taken to preserve the muscular power of the bladder and to aid it artificially when the necessity obviously arises. The timely use of the catheter has often provided the means for warding off changes which unfortunately do not always cease when they have become precisely compensatory. In the clinical history of most cases of hypertrophy of the prostate we can generally trace a period when a weakness of the viscus indicated itself by a frequency in action which was subsequently corrected by an overgrowth in the part, and unfortunately this hypertrophy is not unfrequently in excess. The larger proportion of these are not only able to keep themselves comfortable by the use of the catheter, but often become remarkable examples of longevity under these circumstances. But there are others whose lives, in spite of careful and efficient catheterism, are rendered miserable and useless by what they suffer in this way, urine no sooner collecting in their bladders than they require to get rid of it. Many drugs and operative procedures have been resorted to for the permanent relief of this condition, about which it would be impossible for me to speak in detail. Some years ago I tapped the bladder through the enlarged prostate quite independently of the course of the urethra, and a cannula was retained in this position for two months with great comfort to the patient, who lived for several years and completely recovered, including the acquisition of the natural and unaided use of his bladder. Whilst the cannula was retained his prostate underwent a gradual diminution in size. The process has been repeated by myself and others with very satisfactory results; and this tends in no slight measure to substantiate the views I have already advanced relative to the pathology of the disorder; and there can be no doubt also that prostatotomy, which affords a free and incontinent escape for urine from the bladder, has proved of very great temporary and permanent service in this class of cases. At the meeting of the International Medical Congress at Copenhagen in 1884, I took the opportunity of illustrating this method of treatment as an alternative in cases, such as those of difficult micturition due to a large prostate, which are not adequately relieved by the use of the catheter. It includes instances where there is unusual difficulty in introducing the catheter, where bleeding almost always attends the use of this instrument, where the withdrawal of the urine is followed by no sense of relief, and where the bladder, by the constant presence within it of pus and tenacious mucus, is converted into little else than a chronic abscess, through which urine percolates. These, as well as some other forms of prostatic disease, are practically unrelievable by the catheter, and soon terminate in a painful death; and for their relief various expedients for establishing a more or less permanent communication with the bladder, other than by the urethra, have been practised—such as puncture above the pubes, by the rectum, and from the perineum with the retention of a cannula; but they all fall short in one important respect, in not dealing with the cause of the obstruction. Two of these measures are open to the objection that the artificial canals are inconveniently placed as permanent vents.

It appeared to me that by combining Cock's well-known

and safe operation for opening the membranous urethra with Mercier's for dividing the prostatic bar from within the urethra, as suggested by the late Mr. Guthrie, it would be possible to obtain precision with an increased freedom from risk. I attached considerable importance to the treatment immediately following section of the enlarged prostate with the view of rendering it more permanent than had hitherto been attempted, and I had been impressed with the advantage that followed the employment of suitable bougies as dilators in cases where the prostate threatened to obstruct micturition. The operation of prostatotomy consists in opening the membranous urethra from the perineum on a guide, introducing the finger within the prostatic urethra, and dividing the obstructing portion of the prostate a little to one side of the median line, partly by incision with a curved bistoury from within outwards, and partly by divulsion with the finger when the latter is feasible, a large drainage-tube being then introduced into the bladder. Considerable importance is attached to the prolonged use of the drainage apparatus, the object being to render the section of the prostate permanent; hence, the tube is retained for six, eight, or ten weeks. If a catheter can now be made to enter the bladder easily along the natural route, or if urine forces its way, in spite of the drainage tube, along the natural passage, I regard these as indications that the object in view has been attained. The perineal wound is then allowed to close. Taking the cases thus operated on, I have noted the following results:—1. The operation has merely afforded just such a temporary relief as the retention of a catheter or cannula would do as a drain, the condition of the patients, so far as recovery was concerned, being more or less hopeless at the time of the operation. 2. The establishment of a permanent vent for the urine through the perineum. In two instances where this occurred the patients exchanged a life of misery for one of comparative comfort. 3. The substitution of easy for difficult catheterism. In one patient I thus operated on, though he had to use his catheter afterwards so long as I heard of him, which was for over two years, he never had any difficulty in passing the instrument, and the bladder continued to be far more tolerant of urine than it had previously been. 4. The complete recovery of the patient.

It has been pointed out that in some cases of this kind it must be absolutely impossible to explore the whole length of the prostatic urethra with the finger, but I have never met with a prostate of such size or shape as to prevent a staff or guide being passed into the bladder, and where a director will go a knife may safely follow. But, though a more or less permanent vent for the urine, either supra- or infra-pubic, may be valuable in some instances of urethral obstruction due to prostatic hypertrophy where ordinary catheterism does not relieve, it is not applicable to cases with symptoms due to the irritation of protruding masses of degenerated prostatic tissue. There is much in favour of direct surgical interference in these exceptional cases of grave prostatic obstruction and irritation, and I have on three occasions deliberately removed by perineal section considerable portions of the hypertrophied prostate, with permanent relief to the patients; the cases in which it is necessary, it is true, are comparatively few in number, and the subjects are usually aged and feeble, with reduced powers of repair. So far I have been able to do all I desired in the way of removing more or less of the obstructing prostate by proceeding from the perineum, which I have always opened with considerable freedom; but I take this opportunity of expressing the interest with which I read the paper by Mr. McGill at the Clinical Society, in which it is demonstrated that portions of the prostate might be removed through a supra-pubic incision, and I am disposed to think that this will be found the best way to deal with such cases, for it places the operator in view of those projecting masses of degenerated prostate tissue which invariably protrude towards the cavity of the bladder, and which really are the cause of the distressing symptoms of irritation which accompany them. Care must be taken in the selection of cases for operation, which should be done, not because the prostate is large, but because it has induced symptoms which cannot be alleviated in any other way. You may remove the prostate entirely, but this necessarily renders the individual incontinent for life; it cannot be done without seriously mutilating the muscular ring which is essential to the integrity of the bladder as a urine-holder. The most suitable cases are lobulated prostatic masses and isolated fibromas in the part.

The following instance which I will briefly relate substantiates the proposition with which I opened this lecture, and as it similarly bears upon the operative point now under consideration I may consistently close my remarks with it.

In August, 1882, a patient, aged sixty-four, came under my care with symptoms of primary carcinoma of the prostate, which caused bleeding, continuous pain, and irritability of the bladder. I did a free median cystotomy, and with finger and blunt gouge enucleated the prostate and the growth connected with it, the latter coming entirely away, with the exception of a small portion in front. There was little bleeding, and the patient made a good recovery, though he lost the power of retaining his urine, and it was necessary to provide him with an apparatus for controlling its incontinent escape. He lived for fourteen months after the operation, and was able to return to his work as a stevedore. He eventually died from a recurrence of the disease in the glands of the groin.

FURTHER INVESTIGATION INTO

THE SO-CALLED HENDON COW DISEASE AND ITS RELATION TO SCARLET FEVER IN MAN.

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(*Concluded from p. 118.*)

POST-MORTEM APPEARANCES IN THE HENDON COWS.

A GREAT deal of importance appears to have been attached to the post-mortem appearances which were found by Dr. Klein in the original Hendon disease. This is all the more surprising inasmuch as it was presumably not only a non-fatal form of scarlatina, but of such a very mild type that, according to Dr. Klein, neither feeding capacity nor milking power was affected, nor the body temperature abnormal. Putting aside the danger of coming to conclusions from two post-mortems, I will pass on to quote fully what the post-mortem examination of these two cows revealed. In cow 4, killed Jan. 9th, we read as follows:—

NAKED-EYE APPEARANCES OF HENDON COW NO. IV.

"On opening the chest, it was found that both lungs exhibited on the upper posterior lobes numerous petechiæ under the pulmonary pleura, the peripheral lobules of these parts being much congested. There were numerous adhesions by recent soft lymph between the lower lobes of the lung and the costal pleura, particularly laterally. In the liver there were several reddish streaks and patches reaching from the surface of the organ to a depth of about a quarter of an inch. In these patches the liver tissue was much softened. The spleen and kidneys, with the exception of slight congestion, appeared normal. In the placenta there were numerous petechiæ."

MICROSCOPICAL EXAMINATION OF INTERNAL ORGANS OF HENDON COW NO. IV.

Lung.—"Sections made through the portions above mentioned as containing much congested lobules show not only great congestion of the bloodvessels, large and small, but a large amount of hæmorrhage; blood in substance being present in the air vesicles, and infundibula in the lymph spaces of the interlobular septa and in the tissue and lymphatics of the pleura."

Liver.—"Under the capsule, as well as in the substance of the liver, there occurs no connexion with the interlobular branches of the portal vein, larger and smaller foci of inflammation consisting in the presence of numerous round cells. Some of these foci are several millimetres in diameter, others are very small. From the interlobular tissue the inflammation extends into the lobules between the liver cells. The liver cells of these lobules involved in the inflammatory process are swollen up, and many of them are undergoing disintegration. In some of these foci, particularly those situated in the vicinity of the capsule, the round cells are so much crowded that given foci look almost

like miliary abscesses. The bloodvessels are much distended and filled with blood."

Kidney.—"Sections showed well-marked glomerulo-nephritis; infiltration of the sheath of the cortical arterioles with numerous round cells; the epithelium of the convoluted tubules swollen, opaque, and in many places disintegrating."

NAKED-EYE APPEARANCES OF HENDON COW NO. III.

"In the lungs there were numerous lobules, especially in the peripheral parts, which showed great congestion; there were in addition pleural adhesions; the cortex of the kidney were congested, but its medulla was pale."

Microscopical appearances.—"The lungs and kidneys showed on microscopic examination the same appearances as in cow No. 4; in addition, there was a good deal of round cell infiltration in the wall of the infundibula and bronchi in the lung and around the arterioles in the kidney."

Such post-mortem appearances can hardly be regarded as of primary importance. At most they are suggestive of some coincident affection. In both, the description of the naked-eye appearances suggests pleurisy or possibly some pleuro-pneumonia. The microscopical appearances in both are suggestive of septic poisoning.

POST-MORTEM APPEARANCES OF COWS FROM WILTSHIRE.

I have already mentioned that a cow from the outbreak which I investigated in Wiltshire was sent to the Brown Institution. Having duly received notice of the post-mortem, I accompanied Professor Brown, and, inasmuch as there was no suspicion of any visceral disease complicating the eruptive disease of the teats, it was not surprising to find that the naked-eye appearances at the post-mortem were practically negative. All that could be noted of the viscera was as follows: petechiæ on the spleen and liver, a few whitish irregular spots; fatty patches on the surface of the cortex of the kidney. I have already mentioned that there was an unusual condition of ulceration in this cow, and milking had become a matter of great difficulty to inexperienced hands. The result was that after the cow had been at the Royal Veterinary College the udder became enlarged and the teats red and swollen. At the post-mortem an incision into the udder revealed an enormous abscess.

At the post-mortem of cow No. 2, which was also sent to Dr. Klein, there was a somewhat similar condition, and the visceral changes were negative. I shall refer to the examination of the ulcers of these two cows later, but it is interesting to observe that microscopical sections of the kidney of the Wiltshire cow No. 1 revealed a similar condition to that found in the kidney of Dr. Klein's Hendon cow.

MICROSCOPICAL EXAMINATION OF KIDNEY OF WILTSHIRE COW.

Sections showed glomerulo-nephritis; infiltration round Bowman's capsule with round cells; infiltration of the sheaths of the vessels with round cells, especially of the cortex; bloodvessels in the boundary zone of the medulla engorged; arterioles of the glomeruli engorged, and slight hæmorrhages into the capsule; epithelium of the convoluted tubules granular, opaque, and in some parts breaking down. Inasmuch as sections of the kidney of cow No. 1 (Wiltshire) show similar appearances to those in sections of Dr. Klein's Hendon cow No. 4, the appearances in the latter can hardly be regarded as a necessary indication of the disease being scarlatina in the cow.

MICROSCOPICAL APPEARANCES OF THE ULCERS OF (WILTSHIRE) COWS NOS. I. AND II.

Cow No. 1.—Sections of a portion of the spreading ulceration of the teat showed only a superficial ulceration, not extending far into the depth of the tissue. There were marked hæmorrhages in the corium. These appearances were different from the appearances in sections of a circumscribed ulcer from the teat of (Wiltshire) cow No. 2. Sections of this ulcer also show infiltration of the corium with round cells, but the ulceration extends deeply into the tissue. There are spaces or cavities in the stratum Malpighii, especially in the superficial layers. These spaces are empty, or filled with granular matter and round cells, and are separated from one other by trabeculæ. In short, it may be said that the appearances under the microscope, compared side by side with Dr. Klein's illustration of an ulcer from a Hendon cow (Plate X., Fig. 12), are so strikingly similar that Dr. Klein's illustration looks as if it might have been drawn from a section from (Wiltshire) cow No. 2. It is interesting also to note that Dr. Klein states that the appearances of microscopical sections of ulcers of the Hendon cows "recalled vividly the condition observed in the vesicles of cow-pock."

POST-MORTEM APPEARANCES OF INOCULATED CALVES.

Though the post-mortem appearances in the Hendon cows cannot be regarded as throwing much light on the question, this is not the case when we come to examine the post-mortem appearances of calves inoculated with scraping of an ulcer or with cultivations of the streptococcus from cases of scarlatina. These post-mortem appearances are very striking, but they cannot be regarded as characteristic of scarlatina; they are, in reality, the post-mortem appearances of septic infection, and common, therefore, to many diseases. For example, let us take the case of calf No. 1, which was inoculated in the skin of the groin and with a subculture of streptococci from the blood of a scarlatinal patient. This calf was killed, and the post-mortem appearances were as follows:—

"The lymphatic glands of the groin much congested and swollen, some of them dark-red, almost black. Similar appearances were found in some lymph glands in the subcutaneous tissues of the throat and in the pelvis; in some also of those along the aorta and vena cava, in the bronchi, and in the anterior mediastinum, along the trachea, and along the stomach and mesentery. Many of these glands were either partially or wholly of a dark-red colour; when cut into, bloody fluid easily oozed out. Those that were not dark-red were soft and juicy, and clear fluid oozed from them when cut into. Some of the dark-red, almost black, glands—e.g., some in the bronchi, the glands along the aorta and vena cava, and in the pelvis were not larger than a pea, others as large as a bean, and up to the size of a walnut. Sections examined under the microscope showed a large amount of blood effused *en masse* into the cortical and medullary lymph sinuses and into the tissue of the lymph follicles of the cortex, by which the adenoid tissue of these latter had become to a great extent destroyed. Both lungs were congested in the upper and middle portions, groups of lobules in the latter being dark-red and hepatised, and not floating in water. The pericardial cavity was filled with several ounces of clear liquid; patches of soft pseudo-membranes were found on the root of the aorta and pulmonary artery, on the wall of both auricles, and particularly along the free margin of the latter. The liver was congested, and showed dark-red patches of softened liver tissue. The spleen was enlarged, dark in its substance, with numerous petechiæ in and underneath the capsule. Both kidneys showed much congestion." The result of microscopical examination of the organs of this and other calves Dr. Klein sums up by saying that the appearances "closely resembled those found in the viscera of cases of fatal human scarlatina."

I will now give for comparison with this account the post-mortem appearances of the calf, which was killed at the Royal Veterinary College. This calf had been inoculated in the groin with the scraping from an ulcer of (Wiltshire) cow No. 1. During the second week after inoculation it was very dull and did not feed well. It had diarrhœa for several days, passed bloody urine, and it was noticed that it had a slight cough, which got worse. The place of inoculation was suppurating freely, and there was considerable inflammatory thickening around the seat of inoculation. The animal was killed thirty-six days after inoculation. The post-mortem examination of the viscera was made under the supervision of Professor Brown and Professor Axe. I have submitted the microscopical specimens to Professor Brown. I will now give a detailed account.

NAKED-EYE APPEARANCES.

Lungs.—Upper and middle lobes of each lung adherent to the walls of the chest; patchy congestion, especially of the middle lobe, and patches of recent adherent lymph. Posterior parts of the upper lobes of both lungs were completely consolidated, and on section varied in colour from brick-red to greyish-white. The interlobular tissue was infiltrated with inflammatory products, which mapped out the tissue of the lung in small indurated areas, in which the tissue was granular-looking and friable. These appearances in the upper lobes were due to pleuro-pneumonia. Scattered through the other lobes of both lungs were white, mostly firm, nodules raised above the level of the surface of the lung. They were surrounded by a zone of congestion, and in some cases sections were composed of indurated, in

others of friable, lung tissue. In the posterior part of the right upper lobe there was a recent infarct.

Bronchial glands.—The bronchial glands at the roots of each lung were enlarged to two or three times their natural size, and were hard and firm on section.

Pericardium.—The parietal surface of the pericardium was covered with recent adherent lymph. The visceral surface of the pericardium was normal.

Aorta.—Along the external surface of the aorta were chains of enlarged lymphatic glands connected by dilated lymphatic vessels. These glands were dark-red or purplish in colour, from hæmorrhage into their substance.

Heart.—The heart was normal, and the endocardium not stained.

Œsophagus.—There were chains of red glands on the œsophagus similar to those along the aorta.

Mesenteric glands.—The appearance of the mesenteric glands was very striking. The mesentery was dotted along the lymphatic vessels with glands, varying in size from a large shot to a pea, which were deep-red or prune-coloured. In addition there were here and there enlarged glands, without hæmorrhage into their substance, and greyish in colour.

Spleen.—There were scattered petechiæ on the spleen.

Kidneys.—The kidneys were firm on section, and there was marked congestion in both, while it was more pronounced in one kidney than the other.

Liver.—The liver was congested, the congestion being more marked in patches.

MICROSCOPICAL EXAMINATION.

Lung.—Sections from the consolidated upper lobes showed thickening of the pleura and infiltration with round cells. The exudation filled the alveoli, and was breaking down in some cases in the centre. The vessels were injected, and there were hæmorrhages into the alveoli. The periphery of the lobules was infiltrated with round cells.

Kidney.—Slight infiltration around glomeruli and arterioles with round cells; epithelium of convoluted tubes, granular and disintegrating; hæmorrhage in straight tubes, and engorgement of vessels.

Liver.—Inter- and intra-lobular vessels engorged; intra-tubular collections of round cells displacing the liver cells; interlobular connective tissue infiltrated with round cells; liver cells granular and cloudy.

There can be no doubt from the symptoms and the post-mortem appearances that this calf suffered from septicæmia as the result of introducing septic matter subcutaneously in the groin; and the post-mortem appearances, excluding the consolidation of the apices due to the coincident pleuro-pneumonia almost reproduce the post-mortem appearances observed by Dr. Klein. That the micrococcus from scarlet fever cases should fail to produce in calves fever, ulceration of the tonsils, or scarlatina rash, or any condition resembling clinically the disease in man, and yet that the result should be regarded as scarlatina in the calf is quite untenable; but I am quite ready to agree with Dr. Klein that similar lesions may be produced in calves, whether inoculated with the scrapings from ulcers, or with the streptococcus from the Hendon cows, or with the streptococcus from cases of scarlet fever. The micro-organism is a septic organism (*streptococcus pyogenes*); and its inoculation or the inoculation of septic lymph may produce septicæmia.

SUMMARY.

From the evidence I have adduced, and from the facts I have described, I am led to the belief that:—1. The nature of the contagium of scarlet fever is unknown. 2. The micro-organism regarded by Dr. Klein as the contagium is the *streptococcus pyogenes*. 3. *Streptococcus pyogenes* is found, sometimes in company with *staphylococcus pyogenes aureus* as a secondary result in scarlet fever and many other diseases. 4. A streptococcus was first observed in scarlet fever by Crooke, later by Löffler, Heubner and Bahrdt; but its exact relation to scarlatina and its undoubted identity with the streptococcus from pus and puerperal fever were definitely established in 1885 by Fränkel and Freudenberg.

To these I would add the following statements:—5. Both the Wiltshire and Hendon cow diseases were called cow-pox by people on the farms. 6. Both diseases correspond in their clinical history. 7. The ulcers on the teats correspond in naked-eye and in microscopical appearances, and the latter "vividly recall the appearances of cow-pock." 8. Calves inoculated from the discharges of the ulcers are similarly affected. 9. Post-mortem examination of such calves, or of calves inoculated with streptococci isolated from scarlet fever cases, show similar appearances. 10. The post-mortem appearances in such inoculated calves are the result of septicæmia. 11. There are no specific visceral changes in cow-pox apart from complications or coincident affections.

In a further communication, I shall publish the history of the lad shown at the Society, the full details of the calves inoculated from the boy, and of calves inoculated from those calves, the results of revaccination of those calves, and further details from Wiltshire and Gloucestershire.

EXCISION OF THE TONGUE.

BY WALTER WHITEHEAD, F.R.C.S.E., F.R.S.ED.,
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SINCE I first advocated excision of the tongue with scissors in 1877, criticism has been divided as to the merits of the operation. At the present time, though a growing number of distinguished metropolitan and provincial surgeons give the operation their unqualified approval and practise it, other surgeons still consider that so simple a procedure must involve some untold elements of danger, and advocate what I consider more hazardous and more complex operations. In again bringing the merits of excision before the profession, I propose giving a few illustrations of what I consider its manifest advantages, and in order to bring out in strong relief the salient points of the operation I will refer to one of my latest cases. This affords me an exceptional opportunity of contrasting its merits with one method of removing the tongue strongly advocated by many surgeons of the day, and I propose leaving for another occasion a complete and comparative record of the series of ninety-one consecutive excisions of the entire tongue which I have now performed. In some respects the case I am about to narrate is a remarkable one, and it will enable me to give prominence to several special points inattention to which has led some surgeons to draw adverse conclusions from a too-limited experience of the operation.

R. M. H——, aged forty-five, a gentleman from the north of England, was brought to me by Dr. Ormrod of Workington, suffering from an indurated ulcer on the left side of the remains of his tongue, which had recently been operated upon by a consulting surgeon of a metropolitan special hospital. The operation had been performed on Thursday, July 21st, and there were present, in addition to the operator, two assistants and an anæsthetist. The galvanic écraseur was employed, the peculiar advantages of that instrument in arresting and preventing hæmorrhage having previously been explained to the patient and his wife. The operation lasted thirty-five minutes. I shall now quote freely from a diary kept by the patient and presented to me. The patient passed a bad night, receiving by way of compensation a dose of castor oil next day. On Sunday morning he was up and dressed at 8 o'clock, but thought from his symptoms that he was going to have "brain fever." Chlorodyne given later in the day led to a quieter night, so that the surgeon sent him by cab and train to his friends at Balham the following afternoon. During all this time, and for some weeks after, though the patient used a chlorate of potash gargle every twenty minutes, with frequent intermediate lavations of iced water, the fetor of the breath was so strong that it made his wife ill. How far the prediction that there should be no hæmorrhage was fulfilled will be seen from the patient's own report: "There was no bleeding of any consequence between the 21st and 28th, as my mouth was covered with such a thick coating of congealed blood and viscid mucus that the blood could not possibly get through. Clots of congealed blood were continually coming away, so that it might have bled without my noticing it!" On Thursday (28th) genuine hæmorrhage set in coincident with the separation of the slough. "Friday (29th): Bleeding for five hours. Sunday (31st): Bleeding for six hours in spite of medical aid." Tuesday, Aug. 2nd: Bleeding for five hours. On Thursday evening, having obtained permission to visit London, he went into town. Upon his return, when at the railway station, the hæmorrhage recommenced,

and, after gargling in vain, he with difficulty made his way back to Balham. On Friday morning, Aug. 5th, he awoke at 2 A.M., in a deluge of blood, his night-shirt, pillow, and bedclothes being saturated. Ice and perchloride of iron on lint were tried in vain. A local surgeon was sent for at 4 A.M., and the operator an hour afterwards. After ineffectual attempts on the part of both to arrest the bleeding with forceps, it eventually stopped, without any vessel having been secured. The patient, though assured that the bleeding would rather do him good than harm, was so affected by the loss that the extremities became cold and benumbed, cold sweats covered the upper half of the body, and retching and vomiting with a sense of great helplessness set in. For three days, being unfit for removal to the bedroom, he was propped up on a couch downstairs and dosed with perchloride of iron. On Wednesday, Aug. 10th, he left London for Consett, gargling with iced water, as usual, all the way. On Friday, the 12th, the twenty-second day after the operation, it bled for five hours, and was then finally stopped by Dr. Renton, of Consett, who employed perchloride of iron on lint and continued pressure. On the 20th he returned home to Workington. On Tuesday, the 30th, he again visited the consulting surgeon in London, who pronounced his tongue to be quite cured, and he therefore went home the next day. A week later he was brought by his medical attendant to consult me at Manchester, when I found him in the following condition. There was a large ulcerating epitheliomatous growth involving the posterior third of the right side of the tongue, the front portion having been removed. The patient complained of severe pain, inability to sleep, difficulty in swallowing, and profuse salivation. His articulation was almost unintelligible. On Sept. 8th, the following day, I excised the whole of the remainder of his tongue with scissors, assisted by one of my colleagues, Mr. Southam. The floor of the mouth was freely dusted with iodoform, as I was not provided with the varnish I am generally in the habit of using. After an excellent night, considering the operation he had undergone, the patient sat up in his chair all the next day. There was hardly any pain, no hæmorrhage, no mucus, no fetor, no perennial gargling, and he swallowed several glasses of milk. On Sept. 10th he went out for a walk; on the 11th he kept in-doors in consequence of the weather being boisterous and wet; and on the 12th he spent several hours at the Manchester Jubilee Exhibition. On the 13th, the fifth day after the operation, he returned home to Workington, a distance of 140 miles, involving a journey of six hours. Within three weeks he enjoyed a day's hunting, and on Oct. 31st he had quite recovered.

I have intentionally endeavoured to place the two operations and their immediate results in as striking contrast as possible in order to illustrate two cardinal principles in the removal of the tongue for cancer: first, to remove the whole of the disease; secondly, to do it by the operation attended by the least danger. That the whole of the disease was not removed by the first operation will readily be admitted, when it is noted that only an interval of nine days intervened between the second operation and the day when the first operator declared that the disease was quite cured.

The following are extracts from a report kindly made for me by Professor Dreschfeld, who examined the remainder of the tongue a few days after its excision, and fully confirm this statement:—"The specimen submitted to me for examination consisted of the posterior two-thirds of a human tongue removed by operation. The length of the specimen was 2½in., the breadth 1⅝in., the thickness about ¾in. at the thickest part. The anterior border showed a firm fibrous cicatrix left after a previous operation. The upper surface of the tongue towards the left border showed a long fissure with hardened edges. On section these edges were seen to cover hard, firm, white nodules, extending posteriorly right up to the papillæ circumvallatæ. Several small hard masses could also be felt near the right border and near the dorsum of the tongue, which, again, on section gave the same firm appearance. The under surface of the tongue consisted of a mass of muscles and fibrous tissue seen in section. This surface presented an irregular appearance, consisting chiefly of muscles, but showed several white firm masses both on the right and on the left side of the section, and these on microscopical examination showed the typical structure of pavement-celled epithelioma. Microscopical examination of the hard masses seen on the upper surface of the tongue proved these also to consist of epitheliomatous tissue. Sections through the various portions of the tongue showed little masses of cancerous infiltration, some extending right back, and others extending deep down to the cut under surface."

It is universally admitted, I believe, that squamous epithelioma is at the outset almost always local, being preceded by a small inflamed area excited by some irritant cause. This isolation, however, is only confined to the first stage, which, on account of the great vascularity and close lymphatic connexions of the organ, lasts for a very brief period. The insidious migration of the cancer germs through the lymphatics to the nearest glands very soon takes place; how soon it is a regrettable fact we do not know, but undoubtedly long before induration is detectable. It is constantly observed that recurrence takes place much more commonly in the lymphatic glands, after complete removal of the tongue, than in the adjacent tissues of the mouth. In order, therefore, to obtain a permanent cure, it is absolutely necessary to act promptly, as when cancer of the tongue has once taken firm hold it progresses with great rapidity and unerring certainty to a fatal issue. Delay is not merely dangerous, but fatal to success. The whole of the tongue should be removed in every case. My reasons for complete, in preference to partial, excision are several. Amongst them is the fact that the patient can eat and speak when the whole tongue is removed better than when only a portion has been taken away; another, and one which ought to be concluaive, is that no surgeon can define the ultimate limits of the disease, and when dealing with a growth of such unquestionable and rapid malignancy it is better to err on the right side and remove plenty. That a complete operation, when the disease is limited to the tongue, can be performed through the mouth has been demonstrated so often that there is no longer any legitimate ground for supporting other operations designed for the same purpose which involve unnecessary mutilation of external structures, as those introduced by Syme, Regnoli, Kocher and Furneaux Jordan. It needs, moreover, no elaborate arguments to prove that the powers of speech and deglutition are not materially impaired by this radical treatment. Three years ago I removed the tongue of a medical man, an old fellow-student of my own, for epithelioma, the clinical history and the microscopical appearances leaving no doubt as to the correctness of the diagnosis. He is still alive, and in excellent health, and during the last meeting of the British Association in Manchester he was interviewed by several English and continental surgeons without their being able to discover by his speech that his tongue was entirely absent. The only inconvenience complained of by this patient in consequence of his loss is that he can neither whistle nor "lick" postage stamps. So far from the removal of the tongue limiting the conversational powers of my patients, I am bound to say it seems to me to have quite the opposite effect. Most patients appear only too proud of illustrating what articulate wonders can be accomplished without the aid of what has been usually called the organ of speech. In melancholy association with this case stands that of another old fellow-student, who consulted me within a month of the previous one, who suffered from epithelioma of the tongue of about the same degree and duration. Refusing, however, to undergo any operation he died within a few months—one of the most miserable deaths it has ever been my misfortune to witness.

If the lymphatic glands are affected as well as the tongue, they may be removed at the same time as the tongue, or, what I consider still better, at a later period, as soon as possible after the patient has recovered from the first operation. It is a curious fact that the lymphatic vessels connecting the primary nodules with the secondary glandular tumours, and which must therefore carry the infection, do not, as a rule, develop the disease. Consequently, it is sufficient to remove the glands themselves. In illustration of this fact, I may mention the case of a schoolmaster whose penis was amputated by Dr. Peatson and Mr. Windsor, of Manchester, for epithelioma. A year afterwards I removed from the same patient, with the assistance of Dr. Cullingworth, a mass of enlarged inguinal glands, which Dr. Dreschfeld on examination found to be in like manner epitheliomatous. Although I made no attempt to dissect out the intermediate lymphatic tract, the patient is still alive and in good health, seven years after the operation. This is only one of several similar instances where I have operated and obtained up to the present time permanent results.

In the removal of the tongue through the mouth I still prefer Mason's gag to any other, and I take this opportu-

nity of repudiating the gag illustrated in the last edition of Erichsen's Surgery and described as mine; I dare say it is an excellent instrument, but I had nothing to do with its invention.

I believe, likewise, in the avoidance of hæmorrhage, both immediate and remote, as virtually, of all the deaths following the various operations, loss of blood, directly and indirectly, is the primary cause. I can most positively state that not one of my ninety-one cases ever suffered in the least degree from the quantity of blood lost. I regard the dread of hæmorrhage in excision of the tongue as a fear foreign to any practical surgeon. Bleeding is a contingency common to all the operations for removal of the tongue, and in excision less to be dreaded than in any other. It ought to be a reproach to any surgeon who fears the momentary spurt which may take place when the linguals are divided; but even this can be avoided if the arteries are recognised and secured before division, as they can be when the operation is carefully conducted. I do not, of course, refer to a preliminary ligature of the vessels below the jaw—an operation of comparative difficulty and considerable uncertainty,—but to the simple plan of placing a pair of forci-pressure forceps on each artery before it is severed, and when divided securely twisted. Under such conditions the loss of blood need never be seriously dreaded. Since I exclusively adopted torsion and abandoned ligature in these cases, I have never seen a case of secondary hæmorrhage. There is always a risk of ligatures being disturbed, but when once a vessel has ceased to bleed after being properly twisted no more anxiety need ever be felt. Many surgeons of wide experience agree with me in having witnessed more severe hæmorrhage after the use of the écraseur, simple or galvanic, than after the scissors, and certainly the case of R. M. H—— strongly emphasises this fact. In other words, practice shows that the écraseur more generally fails than accomplishes the end for which it was originally constructed.

The dangers arising from hæmorrhage in operations within the mouth are twofold: syncope, or asphyxia from a clot passing into the trachea. A preliminary laryngotomy, recently advocated by some surgeons, introduces a new and unnecessary element of danger, entailing, in fact, a risk equal to that incurred in the primary operation, and in one case lost me my patient before any attempt was made to excise the tongue. Asphyxia can easily be avoided by ordinary care during the operation; I always encourage my patients to cough as soon as they are sufficiently recovered from the anæsthetic.

To ensure success I also believe in the exclusion of the air by an antiseptic varnish, and certainly demur to the statement made by Jessett at the close of the following paragraph in his *brochure* on "Cancer of the Tongue": "Surgeons who advocate the plan of removing the tongue by the scissors claim for this method these advantages—viz, rapidity of removal, greater precision in removing all the diseased parts, and a less risk of septic infection after the operation. *The first two points they have clearly established, but the latter I cannot find sufficient proof of; in fact, on referring to the statistics, the evidence is certainly strongly in favour of removal by the écraseur.*" The evidence given by R. M. H—— is in striking contrast to this opinion, and in agreement with my own experience. Directly after the tongue is removed the floor of the mouth is washed with a solution of perchloride of mercury, well dried, and then painted with the antiseptic varnish. As I have had several letters of inquiry relative to the composition of the latter, I may say that it contains the ordinary ingredients of Friar's balsam, substituting a saturated solution of iodoform in ether for the rectified spirit. This dries immediately and leaves a firm coating on the wound, which lasts for twenty-four hours and does not produce the least irritation; indeed, it is rather agreeable than otherwise, and many patients ask for the reapplication, which is daily required as if it were the most comforting part of their toilet. I consider this method to be much more satisfactory in every way than the plan of packing the floor of the mouth with antiseptic gauze or Billroth's sticky gauze, and certainly the patients prefer it. One man on whom I operated at the Manchester Royal Infirmary, whose mouth I packed with iodoform gauze, swallowed the dressing, and its ultimate destination has never since been ascertained. The most perfect results as regards local fetor and constitutional infection can be obtained with the etherised balsam, and it allows (which is of great moment) the patient to take food the day after the operation.

Lastly, by this plan, I obtain what is much to be desired—a quick recovery. The case of R. M. H—— is only a sample of what should occur in every instance. Others might easily be quoted. For instance, John P——, aged sixty-five, a martyr to chronic asthma, had his tongue excised on June 17th, sat up for some hours on the 18th, and forty-eight hours after the operation enjoyed an hour and a half's walk in the sun without feeling any particular fatigue. Two days afterwards he returned home, a journey of two hours, and has since perfectly recovered. Contrast this with a case of Kocher's operation performed by Dr. R. F. Weir, and reported on account of "the rapidity of the healing process": "The tracheal tube was removed on the eighteenth day, and the infra-maxillary wound was closed on the twenty-sixth day after the operation."

One great advantage of the substitution of varnish for gauze is that the patient can take liquid food in the ordinary way almost immediately after the effects of the anæsthetic have passed off. Such persons are always benefited by liberal diet, as the local pain &c. before the operation often leads to semi-starvation and emaciation. The comfort of taking food naturally from the outset stands in marked contrast with the misery depicted in the following extract from Dr. Weir's case: "The patient was fed, as was customary in these cases, every three hours, with rectal enemata consisting of beef peptonoids (two ounces) and whisky (half an ounce). These were continued for twenty-four hours without additional material. The enemata were discontinued on the sixth day. On the second day he was fed with an œsophageal tube. On the tenth day he swallowed!"

After the removal of the tongue I never encourage the patients to consider themselves invalids. In fact, the less they adopt the recumbent posture the better. Allow them to lie down of course after the anæsthetic, but by all means see that they get up next day, or the same day if the operation has been performed in the morning. Weather permitting, open-air exercise can be commenced on the second day after the operation, and helps to promote rapid convalescence.

The ultimate result of excision necessarily depends upon the purpose for which the operation is undertaken. If simply to relieve pain or to remove the offensive organ from the mouth, the respite is limited. When, however, the operation is performed early, and before the disease has extended beyond the limits of the tongue, I have known patients live for a number of years after being operated upon. One notable case was that of a lady aged sixty-nine, whose tongue I excised for epithelioma in 1872, and she lived until 1886, and then died from causes in no respect associated with malignant disease. I have several patients alive and well whose tongues I have removed two, three, four, and five years ago; and one case in particular is remarkable from the fact that nine years previously to my removing his tongue Mr. Lund had excised a portion of his lip for epithelioma.

The statistics which have from time to time been collected and published with the intention of proving the superiority of some particular operation have always appeared to me misleading. Partial and complete excisions have been classed together; no distinction has been drawn between those cases complicated by the concurrent removal of diseased glands and those confined to the excision of the tongue alone. The robust and healthy have been numbered with those reduced to the lowest ebb of physical strength. For statistics to be of value, the extent and severity of the operation must be adequately stated and the physical condition of the patient described. Classifications could then be rendered intelligible. In my first ten cases of removal of the tongue I employed the galvanic écraseur, and all my patients recovered; these results have been frequently quoted in favour of the galvanic écraseur, and yet it was from this identical experience I finally abandoned that instrument; in fact, it was through the faults of the galvanic écraseur my present method of operating was suggested to my mind. With scissors I have since had one series of twenty-one cases without a death. Those who, like myself, respond to the irresistible solicitations of patients, and excise tongues too far advanced to permit any hope of permanent advantage, except for the purpose of relieving pain and removing from the mouth a source of intolerable disgust, must necessarily have a high rate of deaths; whereas those who only operate in favourable cases will naturally show very much better results. Were I to select my cases, I should be very much astonished if I ever had an unfavourable termination.

MULTIPLE SARCOMA ASSOCIATED WITH OSTEITIS DEFORMANS.

BY G. F. ELLIOTT, M.D., F.R.C.P. LOND.,
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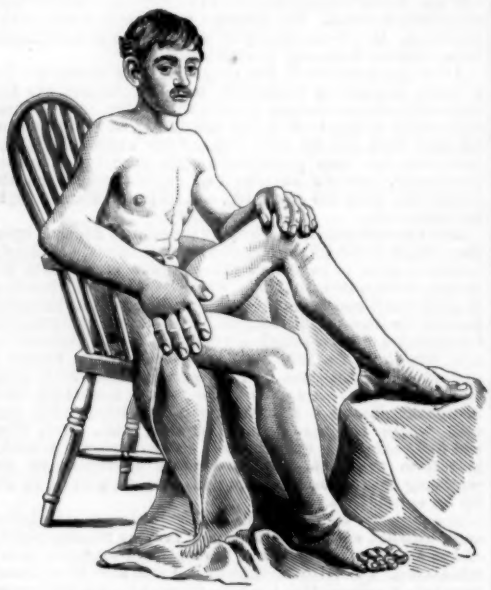
I AM indebted to my colleague Mr. Howlett for the accompanying photograph, which faithfully represents the condition of a patient of mine recently in the Hull Royal Infirmary, who was suffering from the above-named diseases. As regards the appearances presented, it is, I fancy, in all probability, unique.

G. S——, aged twenty-seven, an agricultural labourer, had a good family history, and had not been the subject of syphilis. He had always enjoyed good health until February, 1886, when he began to feel pains in his knees and shoulders. He was for a short time a patient in the Hull Infirmary, in October, 1886; there was at that time no observable deformity, and, as occasionally happens, it seems, in these cases when in an incipient stage, the complaint was thought to be of a rheumatic nature. In December, 1886, he was admitted to the cottage hospital at Beverley, and then for the first time noticed that his hands and feet were enlarged.



When readmitted to the Hull Infirmary in June of last year, he presented the following symptoms. Upper extremities œdematous from the finger-ends as far as half-way up the humerus. The enlargement, however, was manifestly only partially due to œdema; all the phalanges, the metacarpal bones, and the radius and ulna could be felt distinctly thickened. In the lower extremities the swelling extended from the toes to the knees, and the latter joints were enlarged. Here also the increase in size of the limbs could be felt to be partly due to œdema and partly to enlargement of the bones. The clavicles and some ribs on the right side were thickened. There was pleural effusion over the lower half of the right lung. The eyelids were much thickened, and the skin of the face and back of the hands presented numerous small flattened nodules about an eighth of an inch in diameter. Over the trunk generally there was more or less hyperæsthesia of the integument. There was no albuminuria. The heart's action was regular and fairly strong, the apex beat was displaced to the left of its normal position, but there was no murmur. There were some enlarged glands in both groins. The temperature was generally raised, varying from normal to 100°; on two occasions, however, it reached 101° and 102° respectively. About a month after his admission he was attacked with troublesome diarrhœa, which persisted in spite of various remedies up to the date of his leaving the infirmary, and evidently caused considerable exhaustion. Unfortunately, in spite of all that I could urge to the contrary, as his end was manifestly approaching, he persisted in going home on Sept. 9th last, and died nine days afterwards, without having been seen by any medical man in the interim. His illness, then, may be calculated as extending over a year and seven months, or nine months after the enlargement of the bones was noticed.

Remarks.—I need scarcely say how extremely I regret the incompleteness of this case so far as a post-mortem is concerned, especially as I am not forgetful that it may be asked, granting the existence of the osteitis, what proof is there of the presence of sarcoma in the absence of any post-mortem evidence to that effect? We may feel, however, I think, almost unquestionably certain of the existence of the cancerous element in the case from the following facts. 1. The symmetrical œdema of both upper and lower extremities showing, in the absence of any cardiac or renal complication to account for it, that there was pressure upon the large thoracic and abdominal venous trunks, a pressure almost certainly exerted by new growths in some part of their course. 2. The existence of the nodules referred to in the skin; much importance was attached to these as a diagnostic aid by the late Dr. Hilton Fagge, who says[1] that in the first case in which he saw them he mistook them for an accidental complication of molluscum fibrosum. 3. The negative evidence afforded by the absence of any other disease and the rapid progress of the case—this form of osteitis having *per se* little if any tendency, I believe, to destroy life. In enumerating the symptoms presented by this patient I have referred to the existence of cutaneous hyperæsthesia on the trunk. At an early period of his stay in hospital, and before I was otherwise certain of the diagnosis, this was suggestive to me of the existence of internal cancer. Dr. Walshe refers to this symptom, and I once observed it in a marked degree over the skin of the thorax in a case of primary cancer of the lung that I met with some years ago. This man presented none of that curving of the bones depicted in Sir James Paget's cases of osteitis deformans; but had an absence of malignant complication permitted his life to be sufficiently prolonged, this condition would no doubt have developed. His youth was a remarkable feature in the case; all those seen by Sir James Paget have been, I believe, over forty. In conclusion, I would point out that with reference to an example of osteitis deformans brought before the Pathological Society in December, 1882, in which the arms were unaffected, Mr. Treves is reported to have said that "the case was a further illustration of two facts—(1) that the bones of the arms were usually free; and (2) that all cases where the bones of the upper extremity, except the clavicles, were involved occurred in women." To the last of these facts, at all events, my patient afforded a remarkable exception.

COMMUNICATION OF TUBERCULOSIS BY RITUAL CIRCUMCISION.

BY F. S. EVE, F.R.C.S.,
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A JEWISH CHILD, aged five months, was admitted into the London Hospital on Aug. 23rd, 1887, with a large globular fluctuating swelling in each groin. The skin over them was red and thinned. On the under surface of the penis, at the site of the frænum, was a small superficial sore. The abscesses were opened, and a quantity of pus containing some masses of caseous material was evacuated. Their walls were then scraped. The child's condition improved, and in fourteen days he left the hospital with a sinus in each groin, discharging only a small amount of pus.

The mother stated that the child had been circumcised when eight days old, and the wound appeared to heal properly. Six weeks afterwards, however, she noticed a small swelling in each groin, and, on applying to the doctor, it was observed that the circumcision wound had either "broken out again" or had not healed. The swellings grew

[1] Practice of Medicine, vol. i., p. 96.

gradually larger until his admission. Noticing the suspicious nature of the contents of the abscesses, I took some of the caseous material and inserted it beneath the skin of the groin of a guinea-pig. The neighbouring glands soon became enlarged; and, on killing the animal in the course of some ten weeks, I found intense general tuberculosis of the lungs, liver, and spleen, the disease having extended from the inguinal glands along the iliac to the lumbar.

On Nov. 22nd I called to see the child. He still looked thin and delicate, but showed no evidence of tuberculosis; and the parents stated that he had much improved in general health. There was a pinhole sinus in the left groin, but the wound in the right had soundly healed. I learnt that the person who performed the operation had died the previous week from consumption. He had not applied his lips to the wound, but after removing the prepuce he ejected some wine from his mouth over it. The child's parents were both healthy. When last seen in the present month, the child appeared perfectly well.

Living in the same house was another woman whose infant had been circumcised by the same person in 1886. Abscesses formed in the groins in this case six or seven weeks after the operation. For these the child was admitted into the London Hospital. In the clinical notes of this case it is stated that the cause of the abscesses was not ascertained. The child is now well and strong.

Before the occurrence of the above-related case I had not noted that similar cases of inoculation of tubercle in the ritual performance of circumcision had been recorded. In the *British Medical Journal* (vol. i., 1887, page 535) a paper on the subject by Dr. Eisenberg[1] is noticed. He reports a case in which he demonstrated tubercle bacilli in the inflamed inguinal glands, and refers to twelve other cases recorded before the discovery of the tubercle bacillus by Lindman and Lehman. In these cases also the operation was performed by phthisical men, and in all suction of the wound was employed. Still more recently W. Meyer[2] details another case, in which he found miliary tubercles and bacilli in great numbers in the diseased tissues of the groins. A subcutaneous cold abscess formed in the inguinal region. In all the cases mentioned by Eisenberg the inguinal glands became inflamed three weeks after circumcision; in Meyer's case in four weeks; but in the two cases observed by myself this symptom was not noticed until six or seven weeks had elapsed. Not long since a group of cases occurred at the London Hospital, in which primary syphilis had been communicated to infants by ritual circumcision; and this is probably a more common event than the transmission of tuberculosis. Attention having only comparatively recently been directed to this subject, doubtless many other instances of the transmission of both diseases have been overlooked. But in view of the facts which are now to hand, it is surely time that steps should be taken among Jewish communities to obviate the recurrence of similar catastrophes. It may be advisable to point out that I verified the tubercular nature of the disease in the case related by inoculating a guinea-pig, instead of searching for the tubercle bacillus, for the reason that the former method appeared surer; especially owing to the circumstance that the smegma bacillus found beneath the prepuce and abundantly about the skin of the anal and surrounding parts gives precisely the same staining reaction as the tubercle bacillus itself, and might therefore be mistaken for it.

[1] Berlin. Med. Wooh., No. 35, 1886, S. 582.
[2] Centralblatt f. Chirurgie, No. 48, 1887, S. 860.

THE COUNTESS OF DUFFERIN'S FUND.—We learn that the first of the silver medals presented by his Excellency the Viceroy to the National Association is claimed by the authorities of the Grant Medical College, Bombay, for presentation to Miss B. Bradley, the most successful student during the past year, at the first examination in the certificated practitioners' class. Sir Walter De Souza has placed in the hands of the Central Committee, as his final donation to the De Souza Trust, a cheque for 2400 rupees. The Queen's Register, in consequence of the very large number of contributions to the Jubilee collection, had not yet been despatched to Her Majesty. A list of the names of all contributors, together with a copy of the presentation address, will be published with the annual report. The third annual general meeting will be held in Calcutta early next month. The incorporation of the Association is contemplated.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ST. BARTHOLOMEW'S HOSPITAL.

A CASE OF TRAUMATIC ANEURYSM OF THE INTERNAL PLANTAR ARTERY OF THE LEFT FOOT FOLLOWING THE DIVISION OF THE PLANTAR FASCIA FOR TALIPES EQUINO-VARUS TREATED BY PRESSURE; RECOVERY.

(Under the care of Mr. WALSHAM.)

IT is so rarely that we see the formation of a traumatic aneurysm after a tenotomy in the sole of the foot, that the publication of the following case will draw attention to the possibility of its following a wound of an artery in that situation. Mr. Walsham gives the experience of others as well as his own, and points out the indications for prevention of the aneurysm, and also for its cure when formed.

A. B——, a boy aged seven years, was admitted to the Orthopædic Department of St. Bartholomew's Hospital on July 5th, 1887, with talipes equino-varus of both feet. On July 12th the plantar fascia of both feet was divided in the presence of Mr. Walsham in the ordinary way, for the purpose of overcoming the cavus, of which there was a considerable amount. The puncture was made far back in the sole, the position usually chosen by Mr. Walsham for division of the fascia. The feet were then placed in plaster-of-Paris bandages. It was noticed that on division of the fascia of the left foot there was rather sharp hæmorrhage from the puncture. The domet bandage was therefore applied more firmly on that side, and the patient for precaution's sake was taken into the ward. No trouble apparently ensued, however, and he was discharged wearing the plaster bandage. When he was next brought to the hospital, on July 26th, it was found on removing the bandage that a pulsating tumour about the size of a marble had formed on the inner side of the left sole at the seat of puncture, which had soundly healed. Pulsation ceased on pressure on the posterior tibial artery behind the ankle. The patient, in the absence of Mr. Walsham, was admitted into Pitcairn ward under the care of Mr. Willett. As the pulsation could be controlled by compression of the posterior tibial artery, it was determined in the first place to try pressure, and if this failed, either to tie the posterior tibial artery behind the ankle, or cut down upon the sac and secure the vessel on either side of the aneurysm. The foot was accordingly carefully bandaged, and a firm pad placed over the artery behind the inner ankle, the leg being flexed upon the thigh and secured to an anterior iron splint and suspended from a bed-cradle. Pulsation gradually diminished. On August 7th there was none, but the patient felt considerable pain in the swelling. On August 22nd the aneurysm was apparently consolidated, but on the 30th pulsation was again distinct, and on September 5th was of an expansile character, the swelling feeling soft and as if its contents were fluid throughout. Compression was reapplied both to the aneurysm and to the tibial arteries at the ankle, and the foot and leg secured to a back splint. On September 28th the aneurysm felt solid, but the compression was continued. On October 5th it was quite hard, and there was no pulsation whatever. He was discharged on November 6th with the aneurysm firmly consolidated.

Remarks by Mr. WALSHAM.—Traumatic aneurysm of the internal plantar artery as the result of injury inflicted during tenotomy would appear to be rare. Mr. Adams says that, although he has several times seen the internal plantar artery wounded, he has only known an aneurysm form in one case, which was under the care of Mr. Tamplin; and although the plantar fascia has been divided under my supervision in a very large number of cases in the Orthopædic Department of St. Bartholomew's Hospital, it is the only instance in which this accident has happened. I am under the impression, however, that the

internal plantar artery is frequently wounded in this little operation, but that no harm as a rule follows when firm pressure is applied. The cause of the aneurysm in this case, I believe, was due to the mother allowing the child to walk about after he left the hospital and before the parts had become consolidated by the pressure. An injury to the artery is best avoided by using a blunt-pointed tenotome after the skin has been punctured, and keeping its point in contact with the fascia whilst passing it beneath the tense band. The only point calling for remark with regard to treatment is the importance of avoiding too severe direct pressure upon the aneurysm, for fear of sloughing of the skin. Mr. Adams mentions a case which occurred in his practice of injury of the posterior tibial, where a small slough formed in consequence of the pressure not being relieved for four days from neglect of the mother to attend at the hospital. A copious arterial hæmorrhage took place, the aneurysm being ultimately cured by the injection of perchloride of iron.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

CASE OF "BULLOUS DERMATITIS" IN A NEWLY BORN INFANT; EXHAUSTION; DEATH.

FOR the following account we are indebted to Mr. F. H. Wigmore.

Alice C——, an infant ten days old, was brought to this hospital on the evening of Dec. 31st, 1887, suffering from a large bulla extending under the chin from either angle of the jaw. The bleb had already burst, and the red surface of the cutis vera was observed beneath the ruptured epithelium. The mother stated she first noticed the "blister" the day previously; that it was situated beneath the chin, was white in colour, and not more than an inch in length. The bulla was dressed with simple boracic ointment, and the mother instructed to come again the next morning. This she neglected to do; and it was not until 3.30 P.M. on January 2nd that she again brought the child, which then presented a great extension of the disease downwards over the chest, which was raw. The infant was at once admitted. The disease rapidly spread—spread, as it were, by a continuous and progressive exudation of the serum, with the formation of one enormous but flattened bulla, the periphery of which, without any zone of redness, crept insidiously onwards in all directions, while the centre, broken and torn, disclosed the surface beneath, until the mouth, cheeks, abdomen, back, right thigh, half the left thigh, and the left heel were involved, at which point the child died of exhaustion. The temperature on admission was 99°. It then fell to 97·6°, but rose again on Jan. 3rd to 100·6°, which altitude was maintained without interruption until 7 P.M. on Jan. 4th, when the thermometer only registered 95°. It was shortly after this that the child died.

Necropsy by Mr. DIXON.—The body has the appearance of having been extensively scalded. In places it is vesicated, and in others the epithelium is peeling off and a raw red-brown surface exposed. This condition extends over the right side of the face, chin, and neck, the whole of the front and back of the chest and abdomen, the front of the arms, upper part of the thighs from the calf of the right leg downwards, and the left foot. On the other parts the epithelium is in places loosened and raised, and at the borders of the raw surfaces is hanging in loose shreds. The stomach is much distended, and the mucous membrane is of a purple colour. Intestines rather pale; other appearances normal. Heart, lungs, and spleen normal. The kidneys contain several small hæmorrhages, for the most part in medullary portion; some at junction of cortex with pyramids.

Remarks by Mr. WIGMORE.—I think this case is worthy of record, because had I not seen the infant when the single bulla was present, I should have come to the conclusion that it was suffering from the effects of a severe scald; indeed, the development of the disease was of this nature, so that when looked at at any period of its course, without reference to the condition preceding it, the first and almost only inference to be drawn was that some boiling, or nearly boiling, liquid had been poured upon it. Pemphigus neonatorum is not uncommon, but I know of no description which tallies with the condition observed in this case. In pemphigus there is sometimes a history of syphilis, but in this the only fact elucidated with reference to this point was that before marriage the father suffered from some disease which resulted in a bubo, and which, presumably, therefore was not syphilis. The mother has one child, now two years and seven months old; and this child, though small for its age, has neither sign nor history of any hereditary disease. The post-mortem appearance, I think, will be important. I have called the condition observed "bullous dermatitis" for the want of a better and more accurate term; but I must not be understood by that to preclude the possibility of its being due to some local irritation, though none was discovered, nor to put out of court some rare or anomalous form of pemphigus, which has not, within my knowledge, been previously described.

WEST OF ENGLAND EYE INFIRMARY.

ENUCLEATION OF THE EYEBALL, WITH INTRA-ORBITAL INJECTION OF COCAINE.

(Under the care of Messrs. TOSSWILL, BANKART, and ROPER.)

FOR the following notes we are indebted to Mr. A. Roper, registrar.

CASE 1.—Noah M——, aged twenty-two. The left eye was lost from a blow with a stick a month ago. There was a firmly cicatrised wound extending across the cornea and into the ciliary region on both sides. The cornea was flat and opaque. The conjunctiva having been anæsthetised by the instillation of a 4 per cent. cocaine solution, Mr. Roper injected twelve minims of the same solution into the orbit with the hypodermic syringe from four separate punctures, and after waiting for about three minutes enucleated in the usual way. The only pain which the patient felt was when, after division of the tissues, the eye was forced upwards by the backward pressure of the speculum, when he complained of headache over the left ear, which ceased immediately the nerves were divided.

CASE 2.—Mr. Bankart, who witnessed the operation in the foregoing case, was so pleased with the result that he immediately repeated it on a patient of his then awaiting enucleation. The following is the case: William C——, aged sixty. Right cornea sloughed; eye contracting and painful. Cocaine injected as before. The removal of the eye was most tedious from the great thickening of the orbital tissues. The patient felt scarcely any pain.

CASE 3.—James C——, aged fifty-five. Old painful glaucomatous eye, enucleated. Fourteen minims of a 4 per cent. solution injected. Some pain was felt on attempting the division of the internal rectus, but this was relieved by a further and deeper injection of three minims of the solution. With this exception there was no appreciable pain, but some faintness at the time of dividing the nerves (? faintness from the cocaine).

CASE 4.—Francis B——, aged fifty-six. Right eye blind from a cut across the cornea and the ciliary region nearly five months ago. Sympathetic ophthalmia in the left. Eye enucleated after cocaine injection. Some slight pain was felt, but "not so bad as toothache"; but the headache was severe over the ear. It was thought that fifteen minims of the solution had been injected, but on cleaning the syringe after the operation it was found that seven minims had passed back, owing to the dryness of the piston. Only eight minims was injected therefore, which was evidently not quite sufficient.

CASE 5.—William L——, aged fifty-six (under the care of Mr. Tosswill). Large staphyloma of right cornea following slough from burn by hot iron. The patient wished to have the eye removed, but was so nervous that Mr. Tosswill, who had not seen the cocaine used, hesitated to try it. Mr. Roper could not, however, anæsthetise the patient (a burly blacksmith) in the absence of assistance to hold him down, his struggles being very violent, and so fourteen minims of the 4 per cent. cocaine solution were injected. He was literally gasping from nervousness and fear of pain, but did not wince, save when the globe was forced forwards. He explained afterwards that he winced because he felt something, and was afraid he was going to be hurt.

CASE 6.—Frederick H——, aged seventeen, under the care of Mr. Bankart, who removed the left suppurating eyeball after a similar injection, with only slight pain to the patient.

CASE 7.—James F——, aged twenty-two (under the care of Mr. Bankart). Staphyloma of sclerotic and cornea from wound by a fork when a child. Eye irritable. V.R. shadows. Eye removed after injection of fifteen minims of 4 per cent. solution of cocaine. There was no pain.

Remarks by Mr. A. ROPER.—It occurred to me in the beginning of the year, when doing my colleague Mr. Tosswill's work, that an intra-orbital injection of cocaine would

be as effectual in preventing the pain of extirpation of the eyeball as a subcutaneous injection is in the extirpation of tumours on the surface of the body, and this I have found to be so, as the preceding cases show. I have found that the best way to administer the injections (for I have injected each orbit in four places) is to pass the needle between the tendons of the recti muscles, as they are very tough, and it is hard to drive the needle of the syringe through them. Next, the injections must be as far into the orbit as possible and close to the globe, to do which it is well to rotate the eye to the opposite in which you propose to inject. For instance, to administer the upward and outward injection, I rotate the eye downwards and inwards as far as I can, and then, pinching up the conjunctiva as near the sulcus as possible, I pass my needle close to the globe and well into the orbit. Lastly, the experience of two of my friends, who have tried this method without success, goes to show that, if the conjunctiva is much puffed up by the cocaine, the injection is either not deep enough, or more probably is not sufficiently close to the eyeball to ensure its entering Tenon's capsule.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tubercular Disease of Testis.—Intra-peritoneal Rupture of the Bladder.

AN ordinary meeting of this Society was held on Jan. 24th, Mr. G. D. Pollock, F.R.C.S., President, in the chair.

Mr. WILLIAM H. BENNETT read a paper on the Occurrence of Tubercular Disease of the Testis as a local affection, particularly with reference to the desirabiliiy of early castration in certain cases. It was based on a record of five cases of tubercular disease of the testis which came under the author's observation amongst his out-patients at St. George's Hospital. The cases were selected with great care from a considerable number of patients suffering from this disease, as they possessed the following important characteristics in common: 1. An absolutely perfect family history, and an entire absence of evidence of privation, excess, or other conditions predisposing to the development of tubercular disease. 2. A perfectly clean bill of health up to the time of the onset of the disease in the testicle. In this respect exception may perhaps be taken to the case of patient No. 5, who had suffered from syphilis twenty-three years previously, but had never been troubled by any symptoms since. 3. The cause of the original inflammation in the scrotal contents was due in all the cases to direct local irritation, traumatic in four, gonorrhœal in one. 4. In each case the spinal column showed evidence of disease before the opposite testis, epididymis, either seminal vesicle, or other parts in the immediate neighbourhood of the testis originally involved. This spinal disease was so insidious that, with the exception of Case 3, in which it was discovered accidentally, its existence was not suspected by the patient. 5. In neither of the cases did the affection manifest itself in other parts until after the original disease had broken down. These points were fully discussed and the following propositions submitted:—(*a*) Inflammation of the testicle or epididymis, the consequence of injury or direct irritation, may result in tubercular disease of a purely local kind, which, if left to itself, tends surely to generalisation. (*b*) The greatest tendency to general infection is at a time subsequent to the breaking down of the original disease. (*c*) Parts remote from the testis primarily involved may be affected before the opposite testicle, epididymis, or either seminal vesicle. (*d*) The rational treatment of cases like those under discussion is castration, upon the appearance of disintegration about the original disease—i.e., at the commencement of what the author terms, for reasons stated, the "dangerous period."—Mr. HOWARD MARSH said his general experience was opposed to Mr. Bennett's conclusions. He thought spinal disease very rare; he had never met with an instance in association with tubercular testis. He asked whether the rigidity noticed in some of Mr. Bennett's cases might not be due to reflex irritation caused by disease of the lumbar glands. In the large number of cases of local tubercular mischief, such as hip joint disease, general infection very rarely followed, and he thought the tendency to the latter in these cases had been greatly exaggerated.—Mr. H. H. CLUTTON said that in the majority of cases both testes were involved, and for that reason they were unsuitable for operation. He related a case in which removal of testis and cord as far as could be reached was followed by a discharging sinus communicating with the stump of the vas deferens. In his experience pulmonary lesions were common in association with scrotal deposit.—Mr. BRUCE CLARKE alluded to the difficulty of diagnosing tubercular epididymitis from cases of enlargement due to chronic inflammation.—Mr. BENNETT, in reply, commented on the difficulty of being certain of the healthy condition of the vesiculæ seminales. He felt sure that in his cases the spinal rigidity was due to carious disease.

Mr. W. J. WALSHAM brought forward a case of Intra-peritoneal Rupture of the Bladder, in which abdominal section was performed and the viscus sutured. The patient, C. H——, aged twenty-two, was admitted on March 1st, 1887, into St. Bartholomew's Hospital. He had been drinking the night before, and in a fight was butted by his opponent in the abdomen, his bladder being full at the time. He passed a night of great agony, and was brought in a cab to the hospital the following morning; but he was then suffering very little shock, and walked into the surgery with the assistance of two friends. He complained of pain in the lower part of the abdomen, and of having being unable to pass any urine since the blow, although his bladder was uncomfortably full at the time. The perineum was natural, and there was no history of stricture. On passing a catheter no urine flowed, although the point was ascertained to be in the bladder by the finger in the rectum. On depressing the handle the catheter was felt to free itself with a jerk, and its point could be then felt more plainly than natural through the abdominal walls. Bloody urine now escaped, the flow varying with respiration. About twelve hours after the injury Mr. Walsham opened the abdomen, and having discovered an intra-peritoneal rent in the posterior wall of the bladder sewed it up with nine Lembert sutures. The sutures were passed through the muscular and peritoneal coats only, and one was placed above and below the upper and lower angles of the wound respectively. The bladder having been forcibly injected with eight ounces of boric acid solution and found water-tight, the peritoneum was irrigated with about two gallons of warm boric acid solution, and the abdominal wound closed as in ovariotomy. A catheter was left in the bladder for two hours, and the patient subsequently reminded to pass his urine every four hours. There was little shock, and the patient recovered. Daily notes were given at length. The author remarked that there had now been seventeen cases in which abdominal section had been performed for rupture of the bladder, three extra-peritoneal and fourteen intra-peritoneal. Of the three extra-peritoneal cases two died and one recovered. In the successful case the wound in the bladder was secured to the abdominal wall, but not sutured. In the fatal cases death was due to shock. The rent in one was found securely sutured at the post-mortem examination; in the other the rupture had not been discovered on opening the abdomen. Of the fourteen intra-peritoneal ruptures, the rent in the bladder was sutured in eleven, and in three a drainage tube was placed in the wound, but no sutures employed. Of these three, one recovered and two died, death being due to peritonitis and suppression of urine respectively. Of the eleven cases where the rent in the bladder was secured by sutures, five recovered and six died, death being due in three cases to peritonitis, in two probably to shock, and in one to hæmorrhage from a perineal incision employed for exploration. In the three cases of peritonitis the sutures had given way in one, and a leakage had occurred in the lower part of the wound in the other two. In the five successful cases Lembert sutures were employed and the peritoneum was washed out, and in only one was a drainage tube used. The author discussed (1) the advisability of early operation; (2) the importance of using a suture which would not become softened too soon, and of ascertaining before closing the abdominal wound that there was no leakage from the bladder; (3) the cleansing of the peritoneal cavity; (4) the unadvisability of a preliminary incision in the perineum, or of a subsequent incision in that region for the purpose of drainage; and (5) the question of tying in a catheter after the operation, which he decided in the negative. A table of the seventeen cases was given, sixteen of which are in Sir William Mac Cormac's

table appended to his work "On Abdominal Section."—Mr. HOLMES said he was the first surgeon to suggest suture of the bladder for intra-peritoneal rupture unconnected with external wound. With regard to diagnosis, some cases were extremely difficult. He saw one case in which the patient passed urine without difficulty, though the rupture involved all the coats; here the rupture was probably at first incomplete; another imagined cause was a prolapse of intestinal coils into the vesical rent, and thus blocking the opening. He could not regard with much confidence the diagnostic method of injection of fluid into the bladder and measuring that which returned; he considered an exploratory incision preferable. The position of the point of the catheter was of great value; in his own case it was above the central point between the umbilicus and pubes, though vesical dulness was not increased. He thought that to fill the bladder with fluid after placing the sutures was dangerous, because the wound edges might be lacerable and the stitches torn out. The perineal incision was useless, and it was not necessary to pass a catheter or leave it in after operation.—Mr. BUTLIN said that in Mr. Willett's case, despite the closeness of the sutures, a leak could be demonstrated post mortem, and this he considered an argument in favour of after injection of the bladder.—Mr. T. SMITH said that in operation for vesico-vaginal fistula it was a routine practice to prove afterwards that the bladder was water-tight, and he did not see why cases such as the present should be an exception to the rule.—Mr. BARWELL agreed in the value of both preliminary and after-injection of the bladder, and in the necessity for careful irrigation of the peritoneum.—Mr. WALSHAM, in reply, said that Weir-Mitchell had recently proposed as a means of diagnosis that a Petersen's bag should be introduced into the rectum and filled, and then the bladder should be injected. In this way the swelling of the latter, if competent, would be easily palpable. In two cases a fatal result followed leaking at the lower angle of the wound, independently of softening of sutures, and these he thought justified after-injection.

MEDICAL SOCIETY OF LONDON.

Congenital Dislocations of Humeri.—Nævi of Tongue.—Sporadic Cretinism.—Epileptiform Seizures.—Relapsing Pemphigus.—Epispadias.—Chronic Pyæmia.—Electric Illumination of Male Bladder and Urethra.—Unilateral Hyperidrosis.

THE meeting on Jan. 23rd was a clinical evening. There was a large attendance of Fellows, and many cases of unusual interest were shown. The President, Dr. J. Hughlings Jackson, was in the chair.

Mr. BERNARD PITTS showed a child, aged three years, with symmetrical displacement forwards of the heads of the humeri. A very marked gap was to be felt below the acromion, but no distinct glenoid cavity could be distinguished. The muscles were wasted, but the child could perform all the over-head movements. The mother stated that the child had been peculiar about its shoulders since birth. Mr. Pitts believed the case to be one of congenital symmetrical partial dislocation.

Mr. PITTS likewise exhibited a child, aged four years, with a Nævoid Swelling of the Tongue. For the first three years of its life it was continually under treatment for attacks of glossitis, which were induced by considerable lingual hypertrophy, with constant protrusion. A large V-shaped portion of the tongue had been removed with a very satisfactory result. It was now proposed to deal with the nævoid growth by the actual cautery.

Mr. JOHN MORGAN brought before the Society a boy, aged four years, on the dorsum of whose tongue a Nævoid Swelling was noticed when he was eighteen months old. The swelling was raised and of triangular shape; it had only increased in size *pari passu* with the growth of the child. He had seen one or two similar cases which had almost disappeared without treatment, and he felt disinclined at present to operate on this case.

Dr. HADDEN exhibited a little girl, aged three years, who presented some of the characteristics of Sporadic Cretinism. She was dull and lethargic, but talked and walked fairly well, and the bodily growth was but little affected. The patient belonged to a family in which hæmophilia existed. The association of the latter with cretinism might be accidental, but it was worth notice with reference to the hæmorrhagic tendency which was sometimes observed in adult sporadic cretinism or myxœdema.

Dr. HADDEN also showed a child of ten months who was suffering from very frequent paroxysms, in which the head and eyes deviated to the right, then ensued clonic movements and lateral nystagmus to the left, the pupils sometimes becoming dilated. Consciousness was retained, and no other part of the body was convulsed. There was probably a local discharge in the cortex of the superior and middle frontal convolutions on the left side at their posterior part.—Dr. HUGHLINGS JACKSON agreed that the nature of the second case was probably epileptic, and that the lesion was cortical. If epileptic, the fits would become more severe.

Mr. MALCOLM MORRIS sent a case of Relapsing Pemphigus in a child aged three years and nine months, which had been under medical observation ever since its birth. There was no history of syphilis; bullæ began first to appear on the third day after birth, and had come out in successive crops ever since. At the present time they were fewer in number than they were, and the child's general health was much improved. The eruption had nearly always been symmetrical, but had never invaded the palms or soles; and he, though at first disposed to regard it as syphilitic, now inclined to the opinion that it was a case of true pemphigus.—Dr. COLCOTT FOX had the case under treatment for many months at Paddington-green Children's Hospital. Failure of mercurial treatment convinced him it was not syphilitic, and arsenic, though it controlled the evolution of blebs, did not cure it.

Mr. W. J. WALSHAM exhibited a patient, aged nine, on whom he had operated for complete epispadias and partial extroversion of the bladder. The penis was ill-developed, but had a good glans, and the urethra was open in its whole length on its dorsal aspect, except at one spot. The anterior vesical wall was partly deficient, but the mucous membrane did not bulge forwards. The scrotum was well developed, the testicles descended, and there was no hernia. An incision was made round the margin of the opening into the bladder, and continued at each end on either side of the gutter representing the urethra as far as the glans. The muco-cutaneous tissues, having been dissected up, were turned inwards, and were united with chromicised catgut sutures of Lembert. An incision was then made transversely through the skin of the scrotum at the root of the penis, and a second parallel to the first about an inch and a half lower down. The bridge of skin thus marked out was dissected up, and the penis passed under it; the flap was then united to the skin round the margin of the bladder and urethra by horsehair sutures. The flaps united by first intention, except over the anterior third of the urethra; but for this it was hoped that a cover could be made later on from the abundant skin forming the prepuce. The boy could now hold his urine for five or six hours, and passed from five ounces to half a pint of urine at a time.—Mr. JOHN MORGAN had only met with one case in ten years of epispadias with partial extroversion, which resembled this one.—Mr. HURRY FENWICK had found it necessary to adapt a urinal to a case on which he operated.

Mr. CLUTTON brought forward a case of Chronic Pyæmia, or, as he would preferably term it, "Multiple Purulent Synovitis," and showed the patient. The boy, who had suffered from chronic ear disease, was found, on admission to the Victoria Hospital for Children, to have abscesses beneath the chin, in the right calf, in front of the right wrist, and over the right scapula; both elbows and the right hip were likewise full of pus. Free opening and drainage of the abscesses was followed by recovery, with stiffness of the left elbow, and dislocation of the right femur with shortening of the limb.

Mr. HURRY FENWICK demonstrated the new Electric Endoscopes for the bladder and urethra made by Leiter of Vienna and Hartwig of Berlin. The urethral endoscope (Leiter's) was passed upon several patients after cocainisation. The mucous membrane was then seen to be brilliantly illuminated by rays from a small incandescent lamp, every detail of the surface being plainly visible. It was shown that the construction of the instrument permitted the direct and painless application of cocaine and caustic to any diseased patch which might be discovered in the canal, as being the cause of gleet or continued urethral pain. Mr. Fenwick observed that the new electric vesicoscope was the

outcome of seven years' patient labour on the part of Dr. Nitze of Berlin, and Leiter of Vienna. Since the employment of the Edison lamp in the instrument, however, these gentlemen had worked independently of each other, and their instruments were both placed before the meeting. They were exhibited upon a "dummy" bladder containing stones and tumours, and the Fellows of the Society were able to see every detail clearly by means of the strong electric light which was emitted from the end of the instrument. Mr. Fenwick showed diagrams of the construction of the instruments, and sketches of the tumours and stones which had been diagnosed by their means. He predicted the popularity of so simple, safe, and successful an instrument, and mentioned that he preferred Leiter's vesicoscope to Nitze's, the former being cheaper, perhaps safer, and certainly of a more brilliant and illuminating power. Mr. Schall of Wigmore-street (Leiter's agent in London) was in attendance, and showed various simple batteries for working the endoscope. It had been modified so that in addition it could be applied to the uterus, ear, nose, larynx, œsophagus, and rectum.

Dr. ANDERSON showed a patient suffering from sweating confined to the right side of the face and scalp, for which no reason could be assigned. It had come on gradually during the last five months after landing from America, and occurred chiefly when he was at meals. Two years ago he had an attack of what he called "powerlessness" of the right arm, which lasted eighteen months, and then passed off; there was now no wasting, anæsthesia, or loss of motion. With regard to diagnosis, Dr. Anderson thought it probably a cord lesion. Arsenic had been given—at first with benefit, but latterly with no effect. The temperature as ascertained by the hand was higher on the affected side.—Dr. HUGHLINGS JACKSON asked whether belladonna had been tried.—Dr. SAMUEL WEST had seen two cases associated with heart disease.—Mr. CLUTTON had met with a case in which, after the healing of a facial scar, a touch on the spot threw the patient into convulsions and perspiration; the symptoms disappeared under croton chloral.—Dr. HADDEN related a case of hemiatrophy of the tongue, associated with paralysis of one vocal cord and unilateral sweating.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Bilateral Anophthalmos.—Congenital Microphthalmos.—Dysentery, with Gangrene of Left Foot.—Dysenteric Ulcers in the Rectum.

A MEETING of the Pathological Section of the Academy was held on Dec. 2nd, 1887.

Dr. NEARY read a paper on a case of Bilateral Anophthalmos, and exhibited a child, aged six weeks, who had been born suffering from this anomaly. The orbits and eyelids were well formed, but nothing representing an eyeball could be detected in either orbit.

Dr. FITZGERALD communicated a case of Congenital Microphthalmos, the living specimen being present, and showing two undeveloped globes, with cornea and iris, but little or no anterior chamber. Illumination of the fundus was impossible. The mother in this case gave a history of fright.—Prof. PURSER said he had never seen a case of anophthalmos until that evening. In order to account for the development in the child in question of the orbits and other annexes of the eyes, not only must the primary optic vesicles have been developed, but the development of the eyes must have gone on to a considerable extent. The development of the primary optic vesicle alone would not have been sufficient to start the growth. He had been in the habit for a number of years of hatching eggs artificially and of studying the fowls so produced in the different stages of their development, and it was by no means uncommon to meet with abnormalities in them. In several specimens there was complete atrophy of the eye on one side; and in one embryo there was atrophy of both eyes, the three cerebral vesicles being well developed, but the optic vesicles being represented by little buds growing from the cerebral vesicles. In some of the fowls the eyes were well developed, and in one case of unilateral atrophy the eyelids were beginning to develop. He thought the absence of the optic chiasma was easily explained. The optic nerve was not developed from the cerebral vesicle at all, but from the brain outwards towards the vesicle. The optic nerve fibres were an outgrowth from the brain towards the eye, and they spread out on the inner surface of the retina. The right eye grew out from the right side of the brain, and the left eye from the left side. The optic chiasma must be a late development, and it was more likely that it grew from the brain to the eye than from the eye back to the brain; so that, if the eye were destroyed at an early period of embryonic life, there would be no reason to suppose that the optic nerves and chiasma would be well formed. The chief question was what kind of process it was which destroyed the optic vesicle. It must be the same as that which destroyed the cerebral hemispheres in cases of acephalus. In those cases the cerebral hemispheres, after their formation, underwent a sort of hydrocephalic change, and then burst, and the fragments formed the pulpy mass that was found at the floor of the skull. In like manner the optic vesicle, which was a delicate structure, perhaps burst after it had reached a certain stage, and then became atrophic. It was curious that the accident should have affected both eyes at the same time.

Dr. CONOLLY NORMAN read a paper in which he described at some length the morbid appearances in nine cases of Dysentery. In two of these there was perforation of the intestine, and in one multiple abscesses of the liver. Out of a population of about 1100 in the Lunatic Asylum under his charge, Dr. Norman had had 120 cases of dysentery in about fourteen months, with twenty-two deaths.

Dr. WALTER G. SMITH read a case of Dysentery, with Gangrene of the Left Foot. A young married woman, aged nineteen years, was admitted into hospital, Sept. 2nd, 1887, suffering from intractable diarrhœa of a week's standing. Her illness had commenced suddenly, subsequently to eating some stale fish. When admitted she was in a state of extreme prostration; pulse 120; temperature 99·5°; very frequent motions, thin and bloody. No treatment proved of any avail, and she died after a week's stay in hospital. Two or three days after admission her left leg was observed to be very cold. It was painful, especially in the popliteal space, and purple patches appeared on the foot. These increased and deepened. Dry gangrene attacked the toes, and spread over the sole of the foot. At the post-mortem the liver and kidneys were normal. No trace of peritonitis, only some patches of peri-splenitis. Mesenteric glands enlarged. Ileo-cæcal valve healthy. Mucous membrane of the large intestine, from cæcum to anus, extensively diseased, deeply injected, and with ecchymotic patches. Innumerable ulcers of various shapes and sizes. The rectum presented a worm-eaten appearance. Many shreds of adherent false membrane. No vascular seclusion found to account for gangrene.—Dr. PURSER described and demonstrated the appearance in three cases of dysentery. The large intestine was in each the seat of an intense diphtheritic inflammation.

Dr. JAMES LITTLE submitted a case of Dysenteric Ulcers in the Rectum with Gangrenous Ulcers of the Stomach. In the middle of last October a man, forty-five years of age, sought admission into the Adelaide Hospital, suffering from severe abdominal pain. It was ascertained from independent sources that he had been of very intemperate habits. He said he had had a cough for many months, and a physical examination showed that he was suffering from phthisis, but not in an advanced stage. In the summer an abscess had formed near the rectum, in consequence of which he was for four or five weeks in the Richmond Hospital, and he left it with a fistulous orifice discharging near the rectum. He remained at home for several weeks in broken-down health, and suffering from irritation at the lower end of the rectum. Seven days before he came into hospital he was, while sitting at the fire, seized with severe pain in the right side of the abdomen, apparently in the direction of the hepatic flexure of the colon. He remained at home suffering from the pain, and from that time until his admission to hospital his bowels only acted once. At the time of admission he complained of pain in the epigastrium, which was swollen, and so exquisitely tender that he was unwilling to be examined. After some days the severe pain subsided, but his bowels, which during the first few days that he was in hospital had remained confined, became, without anything having been done to cause such a change, very loose, and the looseness continued from that time until his death. On account of the great discharge of purulent matter there was great difficulty in examining his stools. He was very unwilling to be moved or disturbed, and he (Dr. Little) did not see any stools that had a dysenteric character. He died a fortnight after his admission. A

post-mortem was made by Dr. Bewley, who found small cavities in the lungs. The liver was very large, and had the appearance seen in persons who died of acute fever. The under-surface of the left lobe of the liver was adherent to the anterior wall of the stomach, and it suddenly gave way and a quantity of purulent matter escaped. A large sloughy-loooking ulcer was found in the anterior wall of the stomach, the roof of which was formed by the lower portion of the left lobe of the liver. There was also a small ulcer in the stomach. The sloughy-looking mass connected with the large ulcer was like what would be left by a large anthrax, and it communicated with the stomach by an orifice, which could be seen in the specimen. The stomachic ulcer was not a chronic one, for there was no thickening of the edges, and the surface of the ulcer was covered with gangrenous-looking material. The cæcum was found to be rather extensively ulcerated. It contained several ulcers, but they were rather superficial. In the transverse and descending colons and at the sigmoid flexure ulcers were also numerous. The maximum amount of change was in the rectum and in the cæcum. The question was—Had the man suffered from dysentery, and were the ulcers and other conditions of the stomach the result of superficial abscesses of the liver opening into the stomach? It was evident that something must have suddenly happened at the time he was seized with the pain, and no doubt at that time the mischief in the liver and stomach first began.—The PRESIDENT remarked that recently, while going round the pathological museums of Dublin and London, he had been struck by the number of specimens of dysenteric ulceration of the large intestine. The specimens of that kind outnumbered all the specimens of other lesions of that portion of the intestine. That might be explained by the fact that the appearances were so prominent and well marked that the specimens were preserved, while others were passed by.—Professor BENNETT remarked that Dr. Norman had not given them any information as to the cause of the pathological appearances described in his cases.—On the motion of Dr. FINNY, seconded by Professor BENNETT, the discussion was adjourned.

CAMBRIDGE MEDICAL SOCIETY.

A MEETING of this Society was held on Friday, Dec. 2nd, 1887, Mr. H. Stear, M.R.C.S., Vice-President, in the chair, when the following communications were made.

Case of Abscess between the Liver and Diaphragm.—Mr. J. HOUGH read the notes of this case, and showed the duodenum removed after death. There was a small punched-out ulcer, which had perforated. The patient, an elderly woman, had long suffered from pain and indigestion, and when seen by Mr. Hough was seized with great pain at the chest; she subsequently vomited, and the vomit was found to contain pus. After death the post-mortem examination showed an abscess extending up between the liver and diaphragm in close connexion with the ulcer in the duodenum, and the origin evidently of the pus contained in the vomit.

Some forms of Disproportion between the Fœtal Head and Pelvis (other than Pelvic Deformity) as a cause of Protracted and Arrested Labour.—Dr. BOXALL showed a hydrocephalic, an acranial, and photographs of an amelus fœtus, which had lived a month. In a short paper, dealing with the mechanism of the passage of the fœtal head through the pelvis, he pointed out the advantages of flexion over extension of the head, illustrating the correspondence of the planes of the fœtal head to those of the pelvis, at the brim, in the cavity, and at the outlet, by the aid of diagrams drawn to the natural size. The subject of rotation was also discussed on the same lines, and attention drawn to the fact that late rupture of the membranes, in addition to other disadvantages, tends, by diminishing the resistance offered by the soft parts to the passage of the head as it begins to descend, to prevent flexion in the early stages. By applying these principles, it is easy to understand why, on the one hand, women with large pelves or small children do not necessarily have easy labours, and, on the other, why women with small (but otherwise well formed) pelves or large children frequently have easy labours. For in the latter case the fœtal head may flex, rotate, and descend without difficulty; in the former, it may fail to flex, and may descend while failing to rotate, become jammed at the floor of the pelvis against the ischial spines, and protracted or arrested labour results. Nature has to a certain extent provided against these contingencies in the moulding capacity of the fœtal head, but in this process much unnecessary force is expended, suffering occasioned, and time wasted, to the detriment both of the mother and child. Where nature fails, art steps in to supply the deficiency. The rule is a very easy one to follow, and the manipulation not difficult to accomplish. When the head descends without flexing or rotating, the defect may be remedied by pressure of the finger from below, in some cases assisted by the other hand above the pelvis; and, if these means fail, and it becomes necessary to resort to the forceps, they should be applied and used in such a manner as to correct the faulty position before traction is attempted.

Specimen of Congenital Hydrocephalus.—Mr. G. N. BLUETT exhibited this specimen. The mother was delivered on Oct. 20th. Her size was unusually large. The breech presented. Labour very slow, the over-distension producing uterine inertia. The trunk being born, the head would not enter the true pelvis. It was therefore perforated behind the ear and the fluid let out; even then its size was so enormous that it had to be delivered with the cephalotribe. The child was fully developed, having no other deformity. It measured 27 in. long, and weighed 15 lb. The circumference of the head was 27½ in., and it contained 4½ pints of fluid. The biparietal diameter measured 8½ in.

Note on a case of Sudden Death in Diphtheria.—Dr. ROPER said H. P. W——, a boy aged twelve years, was taken ill with sore-throat on Oct. 23rd last. He did not seem very ill, and speedily regained nearly his usual state of health, and accordingly no medical attendance was obtained for him. On Nov. 2nd—the eleventh day—he appeared weak, and on the evening of that day he made an attempt to walk upstairs, but failed, and asked his father to carry him up. It was also observed that his voice was nasal. On the following day, Nov. 3rd, he was seen about 3.30 in the afternoon. His face was pale, and slightly livid. The surface of the body felt cold. The tone of voice was nasal, and it was elicited that since the previous day fluids had returned through the nose. The temperature in the mouth was 97·4°. The pulse was 72, small and weak. Respiration 16, shallow. Heart sounds feeble, and rather indistinct. Milk with brandy and egg-and-brandy mixture were ordered to be taken frequently. Carbonate of ammonia with bark was also prescribed. He died at 5.30 the following morning, Nov. 4th. At the necropsy (Nov. 6th) the cavities of the heart were completely distended with clot, especially on the right side. The lungs were healthy, but the left one was attached to the chest walls by old adhesions. The local lesion in this case must have been very slight, as by the eleventh day there was no evidence in the state of the mucous membrane of the previous exudation; and the patient had taken his food well until the paralytic symptoms set in. The paralytic symptoms manifested themselves earlier than usual.

Malignant Endocarditis.—Mr. LAURENCE HUMPHRY related this case. Sarah N——, aged fifty, a widow, laundry-woman, living in Cambridge, was admitted into Addenbrooke's Hospital on May 4th, under Dr. Bradbury, under whose care she was for the first week of her illness. There was no history of syphilis or rheumatism, and her health had been good until April 18th, when she suffered from sore-throat, labial herpes, chills, and cough. Her house had previously been condemned for bad drainage. The note on admission stated that the patient looked ill and weak; face flushed; herpetic eruption about nose and lips; tongue dry and brown; temperature 102°; pulse 120, regular; bowels regular. Physical examination of the chest showed pneumonia at the right apex. The heart sounds were clear at apex and base; the apex beat not felt. The abdomen was distended; no spots. Urine 1012; no albumen or sugar. On May 6th she was evidently better, the temperature was normal, pulse 100, tongue moist and cleaning, and the physical signs at the apex of the right lung were clearing. On May 8th the temperature suddenly rose to 102·6° and the pulse to 132, which after a profuse sweating were reduced. The same occurred the following days, and on May 11th she had a distinct rigor. She appeared very feeble; face flushed and profuse perspirations; mental condition rather excitable, but no delirium; occasional cough and blood-stained expectoration. The breathing was very feeble at the right apex, and occasional friction sounds with impaired resonance at the second and third intercostal spaces. The heart sounds were clear and regular. The symptoms being so decidedly pyæmic in character, careful search was made everywhere externally and internally for evidence of pus. It was suggested to make an exploratory puncture for pus at the

third right intercostal space, but her condition was evidently hopeless. On May 14th her temperature reached 105°, an she had a severe rigor, and gradually sank after becoming unconscious. On one occasion her urine contained a small quantity of pus. The post-mortem examination revealed a small abscess in the anterior mediastinum, extending chiefly to the right under the mediastinal pleura, and backwards as far as the root of the right lung; it contained about one and a half to two ounces of green offensive pus. The right lung was adherent anteriorly, and the upper lobe appeared to be undergoing resolution after pneumonia. The pericardium was normal. The endocardium of the left auricle was roughened, and on the aortic cusp of the mitral valve was a patch of the size of a threepenny piece, rough, ulcerating, and fungating; near the centre was a small perforation. The aortic valves were thickened and atheromatous, and covered with soft fungating vegetations, easily detached. The first part of the aorta was very atheromatous, with projecting calcareous plates, but without vegetations. There was slight hypertrophy of the muscular walls of the ventricles, and several white fibrous patches in their interior. The atheromatous disease of the aorta and valves was evidently of old standing, the ulcer and vegetations recent. There were extensive infarcts in both kidneys, and a small one in the spleen. There was diffuse purulent meningitis of the brain and spinal cord, with yellowish pus surrounding the cranial nerves; also a few patches of inflammatory softening in the brain substance. Mr. Laurence Humphry remarked upon the frequency with with which these cases seemed to begin in a pneumonia, and the association of meningitis of the brain and spinal cord. In this case the recent mycotic process had evidently been engrafted upon old atheromatous disease of the aortic valves. It was remarkable that, in spite of the ulceration and perforation of one cusp of the mitral and the vegetations on the aortic valves, no murmur of any kind had been observed, although the heart had been carefully examined every day.

Reviews and Notices of Books.

The Marriage of Near Kin. By ALFRED HENRY HUTH. Pp. 475. London: Longmans. 1887.

FEW questions are more frequently asked by readers of this journal than the important and interesting one, "Do consanguineous marriages lead to disease in the offspring?" And our reply has constantly been to such inquiries, "Providing both parents are healthy, no harm need be expected to result to the children of such marriages; whilst if both parents exhibit a proclivity to any particular form of disease (as, for example, to scrofula), the tendency is likely to be exaggerated in the children." The work before us supplies a complete and full answer to the question, obtained by a careful and thoughtful examination and consideration of all the known facts that bear upon it, and we warmly recommend it to all those who are interested in the subject as the fullest and most thoroughly unbiased exposition of the arguments on both sides that we have seen. The points Mr. Huth sets himself to determine are: (1) Whether consanguineous marriages are themselves, by the mere fact of consanguinity and irrespective of any inheritance, injurious to the offspring; whether in a marriage between two relatives who are both perfectly healthy, live under healthy conditions, and whose families are perfectly healthy, the children born will probably be unhealthy. (2) Whether consanguineous marriages give a greater proportion of unhealthy children than non-consanguineous marriages; or, in other words, whether it is a fact that consanguineous marriages, through intensification of a previously dormant hereditary family taint, give a greater proportion of unhealthy children. The first question is one of creation, the second a question of inheritance. Mr. Huth regrets, as all must do, that no advantage is taken of the machinery of the Census for the settlement of these questions, although our marriage laws in part rest upon preconceived opinions in regard to them, and notwithstanding that the right comprehension of the effects of such unions would certainly exert a powerful influence in promoting such marriages if harmless, or of discountenancing them if harmful. Mr. Huth commences his inquiry, after a brief reference to the frequently incestuous union of animals, by adducing a large number of facts he has extracted from Arabic, Hebrew, Greek, and Roman history, and from the accounts of modern travellers amongst savage nations, and shows that the marriage of near relatives was common in ancient times. And, indeed, amongst the Persians it appears that consanguineous marriages between the nearest relatives, both in the ascending and descending line, were common. The extreme, on the other hand, is, however, seen amongst the Rajpoots, with whom, according to Mayhew, two families were not allowed to intermarry, though their common ancestor dated from eight hundred years before. The difference is bridged over by a thousand singularities of marriage custom, which in Europe has led by a process of evolution to the present condition of the laws relating to marriage. The history of the ecclesiastical prohibitions to the marriage of relatives as given by Mr. Huth is full of interest, showing the effects of the asceticism of the Fathers of the Church; and a curious instance of the artificial and perfectly absurd restrictions that were instituted in the middle ages of the Church is adduced in the case of Chilperic's marriage with Audouère, who was divorced from him by a ruse of Frédegonde, who made Audouère hold her own infant at the font to be christened, thereby contracting such a relation to Chilperic as to prohibit all marital relations. Mr. Huth devotes a chapter to deaf-mutism, cretinism, and malformations; and another to the results of in-and-in breeding in animals. He maintains that any deterioration through the marriage of near kin *per se*, even if there be such a thing in the lower animals, is impossible in man owing to the slow propagation of the species. He even goes so far as to believe that any deterioration through the chance accumulation of an idiosyncrasy, though more likely to occur in families where the marriage of blood relations is habitual, practically does not occur oftener than in other marriages. Hence, he thinks it is inadvisable to extend the prohibitions against marriage beyond the third collateral degree, and to prevent all marriages of affinity except those in the direct ascending or descending line. He therefore may be taken as supporting the repeal of the law which forbids a man to marry his deceased wife's sister, which it is somewhat surprising to find even now occurs, in spite of the prohibition, in 1 per cent. of all marriages and of 33 per cent. of the marriage of widowers.

The Microscope in Theory and Practice. Translated from the German by Professor CARL NAEGELI and Professor S. SCHWENDENER. With numerous Illustrations. London: Swan, Sonnenschein, Lowrey, and Co. 1887.

The history of this translation, as told in the preface, is somewhat curious. It was commenced about ten years ago by Mr. Frank Crisp. He was compelled to transfer the work, after completing a portion of it, to Mr. John Mayall, jun., who finished it. Most unfortunately, a fire in the premises of the printers destroyed a large portion of the book, and the publishers were therefore compelled to issue it without the last three parts. They seem to have hesitated about the matter, and fortunately decided on publication. English microscopists, or at any rate those who do not read German easily, will rejoice at this decision, for the book is a very valuable one and the present issue is complete as far as it goes. The preface, moreover, holds out a hope that before long the further work of Professor E. Abbe of Jena will be presented to English readers. The first impression which we gain on turning over the leaves of the book is

that the title is well justified; there is a great deal of practical information, but it is accompanied throughout by very full theoretical explanation and by analytical studies of the principles involved. The "rule of thumb" is almost entirely discarded, and it may even be doubted whether in some cases—as, for example, in Part IV., which deals with the theory of microscopic observation—the demonstrations are not unnecessarily elaborate. But, on the whole, there is little, if anything, which could advantageously have been excluded. Of the seven parts included in the present volume the first is devoted to the theory of the microscope. It contains full discussions of the analytical methods by which the path of the rays in refracting systems may be determined; of the component parts of the microscope, including five varieties of eye-piece; of chromatic and spherical aberration; of optical power, and the like. Then we come in Part II. to the mechanical arrangement of the microscope, and in Part III. to methods of testing. All this is practical and simple, and requires but little mathematics. The directions for testing for chromatic aberration (p. 158) give a good idea of the style, at once thorough and simple, of the whole book. Part IV., like Part I., is theoretical, although it deals with matters of the greatest practical importance. The titles of its sections will sufficiently illustrate its scope. These are—spherical and cylindrical objects; objects of irregular form (with a good discussion of stereoscopic binocular microscopes); interference phenomena, whether in the microscope or in the plane of adjustment; oblique illumination; the phenomena of motion; differences of level. Part V. deals with the simple microscope and the lantern microscope. In this and in Part II. the translators have omitted some portions of the text for reasons which seem sufficient. Part VI. is entitled Technical Microscopy. Under this heading no mathematics appear, but, instead, useful directions for illumination, the selection of magnifying power, the employment of cover glasses, the preparation, treatment, and preservation of specimens, the drawing of objects, and the like. All this, or most of it, is, however, to be found in other works. Lastly, we have in Part VII. an excellent account of the phenomena of Polarisation. The discussion of this difficult subject is so clear that with a little expansion it would form a text-book in itself. It only remains to say that the translators have rendered the German into very good English, that the illustrations and diagrams are well drawn and sufficient, and that the publishers have added a valuable work to English scientific literature.

OUR LIBRARY TABLE.

Diseases of the Digestive Organs in Children. By LOUIS STARR, M.D. Edinburgh: Young J. Pentland.—This is a good book as books go. Granted that it is desirable to write a separate work on diseases of the digestive organs in children, it must be confessed that better use of the space could hardly have been made. The volume is composed of three parts. The first has nothing immediately to do with the subject in hand, being applicable to any chapter on children's diseases, for it is designed to inform the reader as to the general method of investigating disease. The third part is also general, and inculcates the method of feeding, bathing, clothing, sleep, and exercise. We have examined the work, and can find but few errors, and none of a serious kind. On page 57 it is stated that affections of the gastro-intestinal tract are always attended by coating of the tongue, &c.; it may be averred without cavil that this statement is too absolute. The methods of feeding enjoined are decidedly judicious.

Beiträge zur pathologischen Anatomie und Physiologie. Herausgegeben von Dr. ERNST ZIEGLER und Dr. C. NAUWERCK. Zweite Band, Zweites Heft. Jena: Gustav Fischer. 1887.—Under the title of "Beiträge zur pathologischen Anatomie und Physiologie" there has appeared occasionally a journal devoted to memoirs of a high class, under the editorship of Professor Ziegler and Dr. Nauwerck. The second part of the second volume has just been issued. It contains contributions from the Pathological Institute of Königsberg—viz, a paper on the Action of Iodoform upon Infective Organisms, by Dr. Kunz; Researches on the Histological Processes and the Behaviour of the Blood in Doubly-ligatured Vessels, by Dr. G. Böttcher; Infection Experiments with Typhoid Bacillus, by Dr. Wolffowitz; on the question of the Tenacity of Tubercle Bacilli, by Dr. M. Voelsch; and on the Formation of Pigment in Extravasation, by Dr. O. Skrzeczka. The editor, Professor Ziegler, announces an important change in the style of the journal, and has gained promises of support from his professorial colleagues in all parts of Germany to make the "Beiträge" the medium of publication of memoirs from the various pathological institutes. The title will be slightly changed so as to admit of the insertion of the names of the editors for the time being—viz., the professors of the particular institute from which contributions are published in the number; but Professors Ziegler and Nauwerck retain their position as editors in chief. It is intended also to include abstracts of papers published elsewhere, furnished by their authors; and, to give the journal an international character, papers will be printed in German, French, Italian, and English. The publication is in the hands of G. Fischer of Jena, and the parts will appear from time to time as needed. We shall look with interest to the development of this plan, which is likely to facilitate the publication of monographs in a manner which has hardly yet been attempted.

Notes on Surgery for Nurses. By JOSEPH BELL, F.R.C.S.Ed. Edinburgh: Oliver and Boyd. London: Simpkin, Marshall, and Co.—This little book is compiled from notes of lectures delivered to the nursing staff of the Edinburgh Royal Infirmary. Mr. Bell says in the preface he hopes it will aid nurses who take an interest in their duties to understand their cases and follow intelligently the clinical work in the wards. No one could fail to understand the clear and simple directions contained in this little treatise. Mr. Bell endeavours to impress on nurses the stringent necessity for the most scrupulous cleanliness, and draws a lively picture of past times, in the days when *ward sponges* were carried from bed to bed in ward basins, and when it was not considered necessary, or even advisable, to change the water on passing from patient to patient. He adds that under the improved *régime* it is nearly a quarter of a century since he has seen a case of hospital gangrene.

The Nursing and Care of the Nervous and the Insane. By CHARLES K. MILLS. Edinburgh: Young J. Pentland. 1887.—This is another collection of "Practical Lessons in Nursing," and compares favourably with many books of the same class. It contains a great deal of practical information useful to practitioners as well as nurses. It would, indeed, be well if doctors were trained systematically in the art of nursing—a matter of little difficulty in the case of holders of resident appointments at different hospitals. The second chapter treats of massage, movements, muscle beating, andbathing; the third deals with electricity and its mode of application.

Collected Essays in Preventive Medicine, with a Paper on Glycosuria. By WILLIAM SQUIRE, M.D., F.R.C.P. London: J. and A. Churchill.—Most of these essays have been before the public and the profession for some years. Each of them is characterised by a certain individuality of thought and manner, chiefly the result of the practical nature of the author's mind. There is much variety of type and spacing in this miscellaneous volume, but many practitioners will

perhaps be glad to have Dr. Squire's contributions in a handy form. The best essays are those on infection, disinfection, and temperature observations.

Women and Work. By EMILY PFEIFFER. London: Trübner and Co.—This book treats of the higher education of girls in relation to health and physical development. The authoress gives the opinions of many principals of women's colleges and training schools in reference to this subject. The consensus of opinion appears to be that work done within reasonable limits is almost without exception beneficial to young women. Even in many cases delicate girls have distinctly gained in health when study has been carried on in moderation. Several of the principals remark that they have found delicate girls more reckless in regard to over-study than healthy ones; hence the more frequent cases of break-down amongst them. The authoress points out a distinct want in connexion with all women's work—namely, that of association. So long as women work as mere units, so long will they receive lower wages than men for the same class of work. Co-operation and association amongst women must sooner or later raise the rate of wages for woman's work. The book is written in a temperate and fair spirit, and contains many interesting facts on the subject treated.

The Royal Navy Quarterly List (Witherby and Co., Cornhill), just issued, is full, clear, and complete in its various details as a book of reference, and will be found of great practical value to all connected with the service. Moreover, additional information is supplied in the present issue, amongst which may be noticed—(1) new services, or additional matter, added to the names of 268 officers; (2) the Khedive's Bronze Star added to the names of all officers to whom it was granted for services in the Soudan, 1884-85; (3) a nominal list of ships under the new classification; (4) a nominal list of ships in commission, arranged by stations; and a new feature in this volume is the giving the names of the famous battle-ships of the Royal Navy, which will no doubt be appreciated by the officers of the service.

PROFESSOR VIRCHOW ON CANCER.

(*Concluded from p. 146.*)

IT is sometimes difficult to determine accurately the condition of parts beneath the surface, especially so in cases where the latter is unfolded to form warty, villous, or cauliflower projections. For a long time attention was solely directed to these surface growths, but in a paper on Cancroid and Papillary Tumours, read at Wurzburg in 1850, Virchow showed that cancroid did not consist in mere papillary outgrowth of skin, but in the presence of alveoli filled with epidermoid cells within the diseased tissues. He illustrated this by reference to cauliflower growths of the os uteri, and referred to similar papillary or villous hypertrophy, with or without association with cancer, on other mucous membranes, as of the bladder, stomach, and air-passages, as well as in fungus duræ matris. He also deals with this subject in his Cellular Pathology,[1] and refers to it now to show that more than a generation ago he had insisted on the importance of examining not only the surface but the deeper parts of "surface tumours." It is only necessary to examine just beneath the surface; and where the tumour has projected, the characteristic alveoli may be seen even in the substance of the fungating mass. Again, villous outgrowths—often mere vascular loops—may develop from the walls of alveoli, and with the occurrence of ulceration rise up to or project above the surface. If the papillary or arborescent growths proceed from a superficial smooth base the growth is not suspicious. Indeed, it is only in its base that the difference lies between a simple and a cancerous wart. Clinical facts cannot determine the diagnosis. Lücke[2] recognises the limits of clinical inquiry, for although he points out that the clinician, unlike the anatomist, has the living growth to observe and to enable him to arrive at a diagnosis, "yet we ought not to exclusively rely on the clinical diagnosis of tumours, or desire, as has been attempted on mistaken grounds from time to time, to classify tumours on purely clinical characters. A true clinical classification must be conjoined with an anatomical, for ultimately all clinical knowledge rests on anatomy and physiology." It would have been even more true to say that clinical facts *per se* form no basis for classification, which must be anatomical—not in the sense that the diagnosis must be made by an anatomist, but simply that it must be based on the anatomical structure of the tumour. The mere external characters of a growth are at the best only of service in enabling one to infer from them the actual anatomical structure, whilst history abundantly tells of the inutility of a purely clinical classification. When the microscope was introduced into pathological study about fifty years ago, surgeons sought its aid in diagnosis; and since cancer was found to be largely made up of cells, microscopists were asked to supply the proof afforded by a *specific* cell. The result was that certain "micrographists," especially of the Paris school, produced drawings of the characteristic "cancer cell," and the first outcome of this teaching was to separate cancroid from carcinoma, placing it among local tumours, or at most amongst those which might lead to infiltration of the adjacent lymphatic glands, but not to remote metastasis. In 1855 a sharp struggle on the subject took place at the Paris Academy of Medicine, many practical surgeons, headed by Velpeau, being opposed to the new doctrines. Velpeau, not being versed in microscopical investigation, appealed for aid to Virchow, who had already published a paper (1849) in which he had pointed out that he had seen three examples of so-called cancroid with secondary infection of glands and viscera; and he was therefore able to furnish Velpeau with descriptions and preparations in support of his position. Gradually the specific cancer cell has disappeared, and its place has been taken by the epithelioid cell and the polymorphism which such cells exhibit in cancerous growths. The subject was, however, obscured by erroneous interpretations; and one source of error was found to lie in the occurrence of tumours of *mixed* type, to which Virchow had drawn attention in 1851. Again, in his work on Tumours,[3] he pointed out the fallacy that may underlie the limited examination of a growth of this type, since in the small portion submitted to examination only one of the constituent elements might be present. He had himself thus been led to report that a growth was of simple character, by finding it to be apparently composed of connective tissue; but on its recurrence he detected in the new growth a cancroid structure, the existence of which in the primary formation he was enabled to verify on a re-examination of the latter. He therefore insists upon the most careful examination of all apparently simple and benign growths before advancing an opinion, which has so much bearing both on diagnosis and prognosis. In point of fact, the papillary, villous, and cauliflower cancers are of this mixed type, but it is easier to determine their true nature than it is that of deep-seated mixed tumours. We have only to examine the base of the villous growth to prove or not its malignant nature; whereas in the case of a deep-seated tumour the cancerous elements may be overlooked. Clinical observers lay stress, and with reason, upon evidence of secondary infection, especially of lymphatic glands; but, as is well known, inflammatory swelling of glands is sometimes mistaken for cancerous enlargement. Where the glandular affection is indubitably cancerous, the value to the surgeon rests on the indication for the extirpation of the glands, and on the light shed upon the nature of the disease. But where the glands are not implicated he has to rely upon the external characters of the main growth. Sometimes an exploratory operation is made for the removal of a portion of the growth for examination, but the method is open to error, especially in the case of a "mixed" tumour, since the small portion examined may not happen to contain cancerous elements. The error, however, lies with the surgeon rather than the anatomist, who can only report upon the portion submitted to him. It rests with the surgeon to harmonise the

[1] First edition, p. 414 *et seq.*

[2] Die Allg. Chirurgie, Diagnostik der Geschwülste. Volkmann's Samm'ung, 1876, No. 97.

[3] 1863, vol. i., s. 348.

anatomical result with his own observations on the growth. It is less difficult in cases where two independent growths occur side by side—e.g., cancer and myoma of uterus, or exostosis near to a sarcoma of bone. Careful observation will soon determine which is the more important of the two. Papillary growths in the vicinity of ulcers (especially chronic syphilitic ulcers of the larynx, &c.) may resemble independent formations; but, as a rule, such excrescences are thicker and denser than true warts. The diffuse swelling of "laryngeal pachydermia," which may lead to marked papillation, is still less likely to be confounded with new growth; whilst Virchow has never heard of hard, pointed condylomas, which *per se* would be considered as purely benign local formations arising in the vicinity of true cancer of the larynx. He maintains the proposition that only those new growths are to be considered cancerous which exhibit in their base an arrangement of alveoli containing heterotopous epithelium. Carl Friedländer's[4] objection to this is theoretical rather than practical. He recognises that cancer is atypical epithelial formation, but asks whether "every atypical epithelial formation is cancer?" He refers to lupus, fistula granulations, lepra, and elephantiasis as affording epithelial masses simulating cancer alveoli; but admits that destructive invasion of preformed tissue is characteristic of cancer. Of the above, Virchow thinks the only difficulty rests with granulations of fistulæ, as to their possibly being or becoming cancerous, and he again alludes to the distinctly heteroplastic formation of pearl tumours and dermoids. But no one could mistake these characteristic growths for cancer. Another point is that raised by Thiersch and Waldeyer—whether, namely, the cells within cancer alveoli arise from the surface epithelium or from the deeper tissues; but this disputed point can be passed by as having no bearing on the question of diagnosis. This will still depend on the condition of the base of the tumour—whether, that is, it be involved or not. It would be otherwise if in connexion with cancer a special material were discovered which should re-establish the old doctrine of a specific virus. The numerous and widespread proofs of micro-organisms in morbid lesions have excited the somewhat over-sanguine hope that some day a bacillus of cancer will be discovered. Hitherto the attempts to discover such an organism have not succeeded in convincingly demonstrating it. Still, the possibility of such discovery must not be dismissed; and if it were made it would constitute a great advance in diagnosis and prognosis. But the need of such an organism is not imperative, for animal cells have just as much power as bacteria in metabolism, and there is no reason for withholding from a cancer cell properties allied to those possessed by gland cells. Of late attention has been directed to changes in the body of cancer patients, especially of the blood and urine. Increase of sugar in the blood, diminution of urea in the urine, have been advanced as valuable diagnostic aids. But these observations are far less certain than those derived from anatomical examination; nor have they been pursued with sufficient care, as regards the kind or stage of the cancer, the state of the original tissues, the organ involved, and the general condition, to give them any value in diagnosis and prognosis. They do not explain why some forms of cancer are more infective than others—a point of the greatest importance in prognosis, and one to be deduced from empirical rules. The humoral doctrine of a primary dyscrasia, which arose in the Vienna school, will probably have to give way to the view long since declared by Virchow, that malignant growths are primarily *local* in nature, and that the dyscrasia is secondary. That certain juices form the infective media, or even that bacteria and cells are the active agents contained therein, would not modify this view of the primary change being a local one. Many years ago, when thus breaking with the dogmas of ancient medicine, Virchow found that several surgeons had become so sparing in the use of the knife against cancer that they would not operate on such tumours at all, or only with great reserve. He, therefore, in advocating early operations, proclaimed the fact that "so long as a new growth remains single, we ought not to abandon hope of a successful result, even in the most severe forms of new growth,"[5] and showed how the conviction of its being a local process entailed the endeavour to remove it under all circumstances. In this he had the co-operation of such surgeons as Carl Meyer, v. Graefe, and v. Langenbeck, and it often fell to him to advise operations in very early stages of cases of malignant disease. He is right in protesting that the credit for such teaching, which originated with himself, should have come to be generally assigned to "surgery" as one of *its* discoveries. This belief has, however, had the good effect of making early removal the rule, and increasing the number of cases cured by operation. Not much is to be made of statistics of cancer operations; and if only 9 per cent. of cases of mammary cancer are permanently cured by operation, that is only a small number, but it is a beginning. Of more importance is the observation of the long duration of some cancers, not only of the skin and lip but of the stomach and uterus, where the disease may remain local for a long time, extending mainly by continuity, and perhaps not giving rise to metastases or only after some years. In such cases the danger rests in the local destruction, so that if it can be wholly eradicated locally a permanent cure would be effected. The special difficulty lies in determining the extent to which the "daughter foci" have spread, a point not to be determined by external signs. The mode of this local extension—by accessory nodules which may fuse to form a large tumour—was demonstrated by Virchow in a case of recurrent enchondroma of the scapula;[6] and therefrom arises a doctrine of relative infectivity of tumours, which could be ranged in a scale of malignancy, according as the one tends to give rise to accessory nodules, the other to disseminated and metastatic. This bears also upon the curability of cancer by means of spontaneous regression. Oppolzer and Bochdalek published such cases of cured hepatic cancer, which were eventually shown by Dittrich to be gummata. However, it is a fact in cancer—especially of the liver—that caseation, with regressive fatty metamorphosis of cells, occurs in the centre of the tumour; but then the continued production of accessory foci prevents this leading to a complete cure of the disease. It shows that *per se* carcinoma is not a durable growth; that its cells have a very limited existence; and if it were only possible to extend the regressive metamorphosis over the whole growth, and thus prevent the formation of accessory and metastatic nodules, the cure would be complete. From time to time cases are published in which this is alleged to have happened, but few of them withstand close scrutiny. Nevertheless, the possibility should not be excluded. The observations of John Clay (1882) on treatment by Chian turpentine bear on this, but have not been widely confirmed. It seems that regarding these therapeutic experiments the medical world is too sceptical. In a disease the origin of which is so obscure as cancer, it is quite justifiable to seek for remedies the action of which it may not be possible to clearly explain. Not that every remedy brought forward should necessarily be tested, but all those introduced and supported by reliable observations; and there is a large number of cases beyond operative interference which would give ample opportunity for testing the efficacy of drug measures. Spontaneous regression in the substance of tumours is very common; it is least marked in the horny, epidermoidal growths—the cancroids,—the cells of which seem indisposed to fatty metamorphosis. In such cases removal of the diseased focus is specially indicated. The cancroid may sometimes be spontaneously cured by ulceration, which destroys the cancerous alveoli, and is followed by cicatrisation. We do not possess any means of conferring immunity upon tissues from cancerous invasion or protecting them against infection by an existing cancer. All that we know is that under certain conditions the nutrition of cancer cells may be so impaired that they disintegrate. It was to this end that von Nussbaum[7] enthusiastically advocated the adoption of such stern measures as the burning of deep furrows with the thermo-cautery, around tumours, to cut off their vascular supply; and with like intent various external applications have been made in the past and present by many practitioners. "May the present and the future generations not grow weary in this search! If cancer be at its beginning, and often for long after, a local disease, then it must be possible within this period to cure it locally."

[4] Ueber Epithelwucherung und Krebs. Strassburg, 1887, p. 33.
[5] Spec. Path. u. Therap., vol. i., s. 350.
[6] Archiv, 1853, vol. v., s. 218.
[7] Ueber Umwandlung maligner Geschwülste (Krebse) in gutartige, und über Vorzüge glühender Instrumente. München, 1883.

SUPERANNUATION ALLOWANCE. — Mr. Wm. H. Fitzpatrick, late medical officer for the rural district of the West Derby Union, has, after fifty-nine years' service, been granted a superannuation allowance of £80 per annum.

THE LANCET.

LONDON: SATURDAY, JANUARY 28, 1888.

WE have so often and for so many years emphatically denounced the conduct of the Metropolitan Board of Works in regard to the great sewage question of London, and have failed so entirely in arousing the attention of the Government or even of Parliament, that a feeling akin to despair had until lately come over us. The Thames, the water highway of, and which flows through the very centre of, London, has been, ever since the completion of the main drainage works, in the condition of a cesspool, foul to the eye and nose, dangerous to public health, and becoming in all respects worse every year. Protests, which we consistently supported, were from time to time raised, and at length they became so loud that a Royal Commission was appointed to inquire into the matter. The Commission was remarkably well chosen. Its chairman was Lord BRAMWELL, and its members were all eminent as engineers, chemists, sanitarians, or men of business. The Corporation of London, taking up the work begun by a private committee, conducted the defence of the river; while the Metropolitan Board of Works spared no effort in the attempt to prove that all was as it should be, and that no nuisance existed. A most searching inquiry followed, and about four years ago two reports containing the unanimous conclusions of the Commissioners were issued. The result was that the Board was proved wrong in every important particular. The Commissioners stated in very strong terms that a frightful and dangerous nuisance existed, and ought at once to be removed; that the present outfalls were unsuitable in all respects, and that the sewage ought to be carried down to Canvey Island—a spot between Gravesend and Southend,—and there, after suitable treatment, discharged into the river as a clear effluent. These reports raised the hopes of all sanitarians, and of all who were interested in the purity of the river. The Board had fought its battle with the utmost pertinacity and had lost. It was evidently now its duty to bow to the verdict of the Commission, and to prepare without loss of time a scheme for carrying it into effect. But unfortunately it soon appeared that the Board intended to do nothing of the sort. It was, of course, necessary to make some show of action, but there was never any real intention of adopting the recommendations of the Royal Commission. Accordingly a leisurely study of how not to do it was undertaken. First the sewage was "disinfected"—that is, a minute trace of acid permanganate was added to it before it was discharged in the raw state into the river. We have repeatedly pointed out the absolute futility of such a proceeding. It was a mere farce, and, moreover, a very costly farce, for it is admitted that £100,000 was spent on it for chemicals only in a single year. For any good that it did, this money might almost as well have been thrown in bank notes into the river, for the Medical Officer of Health for the Port of London reports that the state of the river between Greenwich and Erith last year was "horribly filthy and disgusting." The Board, however, has not confined itself to such utterly inadequate disinfection. Ignoring the labours of all previous sanitary engineers and chemists, it has set to work to devise for itself a precipitative process, and has become liable for an enormous outlay in order to carry it out at the present outfalls. Of the merits of this process we are not able to speak. It is not improbably a good one, for no one doubts the skill of the scientific advisers of the Board. But its application at Barking and Crossness is simply idiotic. There will be an enormous quantity of sludge whatever chemicals are used, the whole of this sludge must be carried by steamers to the sea, and the effluent will still constitute a foul defilement of the river. It is impossible that Londoners can remain satisfied with such a system; and when before long the sewage is carried down to Canvey Island or some other suitable spot, almost the whole of the present outlay will have been wasted.

It will perhaps be thought that with this enormous expenditure—past, present, and future—the Board must be content. As they have disregarded the recommendations of a scientific Royal Commission, the members must at any rate be satisfied that the course they have adopted is the proper one. But it seems that this is by no means the case. Acting for once wisely, though illogically, they have consulted Sir HENRY ROSCOE. At a recent meeting of the Board, Mr. GUILDFORD RICHARDSON stated (we quote *The Times* of Dec. 17th, 1887) that £20,000 had already been spent on the experiments made by that eminent chemist. Of the significance of these experiments we are unable to judge, for, following the usual ridiculous rule of secrecy, the report is not published. This secrecy is excused by the fact that a supplementary report is shortly expected, but even then we are informed that the reports will be printed "for circulation among the members of the Board only." Such secrecy seems to us not only undesirable, but inexcusable. The scientific mind of the country should be consulted at every stage in an investigation of such national importance, and for the members of the Metropolitan Board of Works, who are entrusted with the disposal of public funds, to behave as though they were the directors of a private joint stock company whose interests were not identical with those of the public, is as wrong as it is absurd.

For years past we, in common with many other disinterested observers, have been protesting against the actions of the Board. But it has been an up-hill fight. The Board, which represents the vestries and not the public, has been practically irresponsible. No Government, Liberal or Conservative, no Parliament, has troubled itself about its proceedings, and an occasional question in the House of Commons has been readily met by the ordinary curt official rejoinder. But of late there have been signs of a change, and there seems reason to hope that the fierce light of public opinion now beating upon the Board may rouse them to a due sense of the duties entrusted to them, or, failing this, the Government to the need of the creation of some body more fully representative and more competent to adequately deal with questions of paramount metropolitan importance.

IN the suggestive paper which has recently appeared in these columns, Dr. COATS touched upon one of the

most interesting of pathological problems—viz., why the case of diseases which depend upon the entrance into the body of external morbific agents—in most instances presumably vital micro-organisms—such varying degrees of susceptibility to their action should be exhibited? To such an extent does this variation occur, that whole races may present an immunity from a specific disease which will decimate other races. The subject is not a new one by any means, for the facts are as well known as any in etiology. But the explanation of the facts is still very imperfect; and even Dr. COATS, in his substitution of "inherited qualities of tissue" for the current phrase of "nature of soil," has not made any material advance upon previous ideas. Nevertheless, he has done good service in directing attention to the question, which affords so much scope for speculation. The fact is admitted that tendencies to special forms of disease, even to those which are due to external agencies, form as much a part of inherited characters as any other features which determine racial and family types. As with proclivity so with immunity, which is seen most obviously in the department of diseases with which Dr. COATS specially dealt. And although at first sight it might appear that in the group of diseases which are not primarily due to structural or functional derangements of organs the *rôle* of inheritance is not obvious, yet there is no question about it, explain it as we may. For, just as in the transmission of obvious physical qualities, so there must be handed down from parent to offspring a quality of resistance or of susceptibility to the action of *materies morbi*. Dr. COATS has shown by contrasting these things that in the one case, as in the other, there is nothing more remarkable than the standing marvel of like producing like which the organic world presents to us. Granting this, however, there yet remains the question, How has such a condition been brought about, and why is it that these special qualities of immunity or of proclivity come to be impressed upon groups of human beings connected by the ties of family or of race? We gain no answer from Dr. COATS, who, wisely perhaps, refrained from pursuing a subject beyond the limits of proof. He suggested, it is true, that the reason for immunity may lie in the transmission of particular cell qualities, thus dismissing the doctrine of soil in favour of the doctrine of active resistance on the part of the elements of the body. No one can gainsay this, and in the light of METSCHNIKOFF'S instructive researches it has much probability in it. But even this hypothesis leads us no nearer the solution of the problem. It only offers an explanation of the hereditary transmission of immunity from specific disease, which is so remarkably illustrated by the negro race in respect to such diseases as yellow fever. It goes no further, and does not attack the problem at its root.

There are to be obtained in individual idiosyncrasy abundant analogies for such racial differences in susceptibility as are to be seen between the house mouse and the field mouse, or the negro and the white man. It is notorious that from some peculiarity in his organism one individual may be as prone to derangements *ab ingestis* as another is proof against the most pernicious articles of diet. Even food which is assimilated by the vast majority of mankind may in isolated examples be positively noxious. We need not cite the hackneyed saw as evidence of the widespread acceptation of this fact. We are daily made aware in the course of practice how varying are the degrees of tolerance to drugs; how in one individual a minimal dose of mercury, in another of iodide of potassium, in a third of opium, will produce the most aggravated symptoms of their so-called "physiological" effects. We may ascribe such intolerance to individual defective organisation in secretory or excretory organs, but we are as far from demonstrating the real cause as we are of explaining the wider operation of inherited qualities of tissue. Nothing, then, is gained from such a comparison. Is there anything to be found in the closer analogy of acquired immunity from specific disease? Without considering what is the precise change wrought in the organism by an attack of typhoid fever, we do know that in the vast majority of cases it leaves the subject protected from the liability to a fresh infection; whilst the whole fabric of protective inoculation has been reared on the general law of protection conferred by an attack of specific disease. On the other hand, it is generally admitted that certain diseases, even of the infective class, leave behind them a heightened susceptibility to future attacks. Can we legitimately argue from these facts to the question of inherited tendencies? It is conceivable—we will not say probable—that the immunities and proclivities transmitted by inheritance may be ranged under the same great law of natural selection which has determined the existence of the fauna of the present day. The immunity from yellow fever enjoyed by the negro may be the outcome of some long antecedent exposure to its ravages, and the survival of those who possessed qualities which enabled them to withstand its virulence. We have no warrant in the history of medicine for such an assumption, nor do we see any examples in our own experience of acquired immunity being transmitted to offspring. But man lived before history, and the pathogenic microbe probably flourished and struggled with man in ages far beyond our ken; so that no one can assert that the origin of many a specific disease is to be found recorded in written volumes. As applied to the origin of species, the theory of natural selection demands an inconceivably long period for its operation; and as regards immunity from disease a like condition may well be necessary. Less fanciful and more comprehensible is the doctrine of acclimatisation; but, as Dr. COATS showed, this cannot be said to operate in most cases to produce such striking differences as exist in the relations between race and specific disease. Still, in one form or another it is a factor not to be lost sight of, especially in such a disease as phthisis, where inheritance is bound up with the question of exposure to the same surroundings and conditions of life. The whole subject is, however, too full of matter to be dealt with cursorily; and, although Dr. COATS may have refrained from pushing his conclusions very far, we are indebted to him for having touched even the fringe of a question that has never yet been thoroughly expounded.

THE case of HENRY BOWLES, who was recently sentenced to death at the Central Criminal Court for the murder of HANNAH BOWLES, is the most remarkable and perplexing of the many cases of alleged criminal poisoning which have

occurred in recent years. The reports of the case in the daily papers were very incomplete, the evidence of Mr. TWORT and Mr. MANDERS, which was very important, being almost entirely omitted. That the deceased woman (who was really the mistress, not the wife, of the prisoner) and his son, EDWARD BOWLES, died from poisoning by strychnine was proved beyond all question. That suspicion should fall upon the prisoner, the occupier and the only other resident in the house in which the three lived, was only natural, in the absence of any proof that the deaths were due to accident, to suicide, or to murder and suicide on the part of the deceased woman. Although the deaths occurred on Sept. 22nd, the prisoner was not committed for trial until Nov. 29th, the trial not taking place until the present month. The Crown authorities cannot therefore be charged with any undue haste or precipitancy, and it is due to them, and to all the medical witnesses, to state that the inquiries, both before the coroner and the magistrate, showed the greatest care to sift the case to the bottom, both in the interests of justice and of the accused. The prisoner himself went for the doctor (Mr. TWORT) on the night of Sept. 22nd, and as this gentleman found the woman still alive, though moribund, it is clear, from what was afterwards proved, that the prisoner must have started soon after the symptoms of poisoning first appeared, and, indeed, within a short interval after the poison must have been taken. As Mr. TWORT asked him if he had any vermin killer, it is evident that he suspected poisoning and that the poison was strychnine. Missing later on a pill-box he had previously noticed on the mantelpiece, he asked the prisoner for it; but it could not be found, and this was one of the most suspicious circumstances against the accused. On the following day a careful external examination of the bodies was made by Mr. TWORT and Mr. MANDERS, when they found appearances which could only be due to tetanus or to poisoning by strychnine. They therefore searched the house, and having secured a bottle, cooking tin, and gallipot, locked all up till later on, when they made a post-mortem examination. There were no appearances of death from natural causes in either of the bodies; the stomachs were therefore sent, unopened and properly secured, to Dr. STEVENSON. He does not appear to have been informed that there was any suspicion of strychnine poisoning, but was led to believe that it was a case where death had been caused by mushrooms or fungi. He found strychnine in each stomach, the quantity being one-fourth of a grain in the stomach of the woman, one-third of a grain in that of the boy. He also found the same poison in some vomited matters on the boy's clothing and bedding, but none in any of the cooked food or other articles found in the house. At the inquest the prisoner was examined after having been cautioned. He had thus an opportunity of explaining away any of the suspicious circumstances by which he was surrounded. Had it been a case of accidental or suicidal poisoning by pills containing strychnine, instead of the usual contents of antibilious pills, the pill-box ought surely to have been produced by the prisoner, whereas it had disappeared under circumstances which apparently he alone could explain. The coroner's jury might have returned an open verdict if they had had any doubt as to his guilt, whereas it was one of wilful murder. Notwithstanding his, it was perfectly open to the magistrates to discharge him if they thought that the case was not fully proved, whereas they fully committed him for trial. There still remained the Grand Jury, who might have ignored the bill had they thought proper to do so, instead of which a true bill was found. It is only fair to the Crown authorities to note these facts, as some of the daily papers have stated that the prisoner was sent to trial without there being any case against him. This is not correct, as all the preceding remarks show; there was not only a *primâ-facie* case against him, but a very strong one also unless an adequate defence could be set up.

At the trial before Mr. Justice CHARLES the case showed several very weak points. One was the entire absence of any proof that the prisoner was possessed of strychnine. Another was the absence of any adequate motive. It must also be observed that, though the prisoner was tried for the murder of the woman, all the evidence as to the boy's death was brought forward—a circumstance which, though perhaps inevitable, probably acted prejudicially against him. He was defended by two members of the bar, Messrs. RICHARDS and BEARD, who ably displayed all the weak features of the case; and the summing-up of the learned Judge was distinctly in favour of an acquittal. This was still further shown when the jury were unable to agree after two hours' deliberation. They were, according to the foreman, about equally divided, and were sent back to their retiring room with a caution from the Judge that they must be satisfied beyond reasonable doubt that guilt was brought home to the prisoner. Here occurs the most extraordinary part of the whole case. They retired, taking with them the several statements of the prisoner, and in forty minutes returned into Court with a verdict of "Guilty." Another remarkable feature of the trial was that the Judge, in passing sentence, should, after such a charge, tell the prisoner that "he must prepare to die," and "not hope for mercy in this world."

It is to be regretted that the jury did not acquiesce in the obvious leaning of the learned Judge, and return a verdict of "Not guilty," as this would not have necessarily involved the release of the prisoner. He was still liable to be indicted for the murder of his son, had the Crown considered that there was sufficient evidence to warrant this.

On a careful reconsideration of the whole case, the balance of evidence was in favour of the prisoner. The destroying of the pill-box might have been one of the thoughtless acts so often done by innocent persons. The contradictions in his various statements were but natural under the circumstances. He went off for the doctor on the occurrence of the serious symptoms; and even admitting that the sum of £28 was a motive for poisoning the deceased woman, there was none whatever for killing his son, to whom he appears to have been most sincerely attached. If he were guilty of one murder he was guilty of both. It is undoubtedly a case in which the prerogative of mercy may well be exercised by the Home Secretary, who is now giving the case his consideration, and we hope in our next issue to be able to report that the life of HENRY BOWLES has been spared.

THE weekly returns of the Registrar-General show that 1447 deaths from scarlet fever were registered in London during last year, including a certain number of cases that

occurred in the Metropolitan Asylum Hospitals situated outside the boundaries of Registration London. These deaths were equal to an annual rate of 0·34 per 1000 of the estimated population of the metropolis, against 0·43 from the same disease in the twenty-seven large provincial towns dealt with in the Registrar-General's weekly return, and having an aggregate population somewhat exceeding that of London. The highest death-rates from scarlet fever in those towns during last year were 0·90 in Birkenhead, 0·96 in Bristol, and 1·36 in Blackburn, each of these rates being about three times as high as the London rate. If we compare the London rate from scarlet fever last year with the rates from this disease in the metropolis in previous years, we find that it showed a considerable increase upon the unprecedentedly low rates in 1885 and 1886, but that it was lower than the rate in any previous year of which record exists; it was very little more than half the mean annual rate during the ten years 1871-80, which again was little more than half the mean rate in the preceding decennium. It being therefore a fact that the death-rate from scarlet fever in London during last year was not only below the mean rate in preceding years, but also lower than the mean rate during last year in other large English towns, it becomes interesting to inquire why the increasing prevalence of the disease in the metropolis gave rise to such exaggerated impressions of the extent and nature of the epidemic. The answer to this inquiry probably also explains why the fatal results of the outbreak were confined within such comparatively moderate limits. The number of cases of scarlet fever admitted for isolation and treatment into the various hospitals of the Metropolitan Asylum Board, which had been 1399 and 1789 in 1885 and 1886, rose to 5933 in 1887. Thus, while the deaths from scarlet fever in London in 1887 were only twice as many as in the previous year, the number of cases admitted into these hospitals was more than three times as many. It was pointed out in the Registrar-General's last annual summary that in 1878 the deaths from scarlet fever in the Metropolitan Asylum and the London Fever Hospitals were equal to but 7 per cent. of all the deaths from this cause in London, whereas the proportion rose steadily to 13·2 per cent. in 1883, 17·6 in 1884, 20·2 in 1885, and 22·7 in 1886. In 1887, of the 1447 deaths from scarlet fever in London, 500 occurred in the Metropolitan Asylum Hospitals and 27 in the London Fever Hospital; these 527 deaths were equal to 36·5 per cent. of the total deaths from the disease, showing a further considerable increase upon the steadily increasing proportions in the nine preceding years. Judged by the hospital returns, the case-mortality of scarlet fever in 1887 did not materially differ from that in the preceding two years. The mortality of cases of scarlet fever in the Metropolitan Asylum Hospitals was 9·8 and 9·3 per cent. of the completed cases in 1885 and 1886, and rose in 1887 to 11·4 per cent. It must, however, be borne in mind that these hospitals contained 2094 cases at the end of last year, against 496 at the beginning, and that by far the larger proportion of the former number were at the close of the year practically convalescent, the discharge of which as recoveries in the first few weeks of this year will reduce the proportional mortality of the cases admitted in 1887. It seems impossible to doubt that the invaluable sanitary work now being done by the Metropolitan Asylum Board affords the true explanation of the control which was maintained over what threatened to be, but cannot be called a severe epidemic of scarlet fever in London last year.

Annotations.

"Ne quid nimis."

HOMŒOPATHY IN THE UNITED STATES.

IT is an awkward fact in the homœopathic world that its leading practitioner in London has written a book to show that *contraria contrariis curantur* is as much a principle as *similia similibus curantur*. There is abundant evidence that other homœopaths act on this practitioner's varied principles in serious circumstances, though they have not the same courage of avowal as he. "J. C. B.," Dr. George Johnson, and others, have published in *The Times* proofs of what everybody knows, that homœopaths no longer are wedded to infinitesimal doses. When this break down of homœopathy in the hands of its own practitioners is shown, no wonder that it meets with little respect in the profession, and that in Europe it has practically no recognition. When the failure of homœopathy in Europe is pressed on its advocates, the unbelievers are referred to the United States. That is a large reference. Medical law is very easy there, and so is medical education. In fact, the best men in the profession in the States mourn over the rate at which medical men are turned out of the numerous competing schools; and we publish a letter to-day showing that homœopaths in the States are just as little loyal to Hahnemann as homœopaths here. Dr. Potter is Professor of the Practice of Physic in the Cooper Medical College, San Francisco, and writes with a complete knowledge of both systems and both schools. His letter is far too good, and is quite uncalled for as a refutation of any incorrect statements about himself in the *Homœopathic Review* meant to disparage his damaging authority. So regarding it in August, we did not publish it in full, but contented ourselves with an editorial notice of it. But we think it well to publish it now, for the light it throws on the homœopaths of America, whose numbers and practice are paraded to astonish and stimulate the dull mind of Europe. Dr. Potter left the homœopathic school because what he saw showed him that no crucial drug experimentation conducted under scientific safeguards could meet with any degree of appreciation from the majority of that sect, and because of the impression made on him *by finding that ninety-nine out of every hundred so-called homœopathic physicians were in the habit of resorting to regular therapeutics whenever there was any active therapy to be done.* So much for the homœopathy of the United States. It is as unreal as the homœopathy of Europe.

ELECTRIC ILLUMINATION OF THE MALE BLADDER AND URETHRA.

THE electric urethroscope and vesicoscopes which Mr. Hurry Fenwick demonstrated to a large gathering of the Medical Society on Monday, Jan. 23rd, are indeed triumphs of science over grave mechanical difficulties. A reliable index of the progressiveness of the medical profession is afforded by the rapidity with which almost every innovation or advance in science is laid under contribution and utilised to the improvement of the diagnosis and the treatment of disease. As an instance in point, we now find the surgeon enabled to pass an incandescent lamp into the male bladder without pain or danger, and to examine every detail of that

viscus in as brilliantly illuminated a condition as if it was viewed in direct sunlight. Surely, with such instruments as these at command, we shall now have fewer uncertain diagnoses of "obscure vesical disease." Increased knowledge and improved methods of diagnosis and treatment have greatly influenced the statistics of *large* calculi. It is not too much to expect that a similar limitation will in future be placed upon benign vesical growths, for by means of the electric light they may now be diagnosed in their earliest stages. Mr. Fenwick, in his opening words, regretted, we may add that the only unsatisfactory feature of this new resource is the fact that its conception and final stage of perfection emanates from our Austrian *confrères* rather than from an English source.

EXPERIMENTAL NEPHRITIS.

M. GAUCHER recognises many varieties of the large white kidney characterised by different etiologies. Some cases of nephritis are derived from a previous infectious disease; others arise from cold, or cutaneous disturbances secondary to this; yet a third set may be of toxic origin. But apart from saturnine nephritis, which is an interstitial affection of special kind, the mineral poisons may set up an acute nephritis. M. Gaucher has attempted to prove that autochthonous poisoning is a not infrequent cause of the large white kidney. The poison is the result of incomplete oxidation of azotised matters. By introducing subcutaneously in guinea-pigs for a certain number of days an increasing quantity of creatine, leucine, tyrosine, creatinin, xanthin, or hypoxanthin in aqueous solution, the animal is rendered albuminuric, and eventually dies with (as the necropsy shows) an epithelial nephritis like the large white kidney. The accumulation of extractive matters in the blood may then, by elimination of the same through the kidneys, set up irritation of the secreting epithelium, and so produce parenchymatous nephritis. The idea is eminently reasonable. Hepatic disease may perturb the metabolic arrangements of the body in such a way as to lead to excessive accumulation of these products of imperfect metamorphosis of proteids.

BROWNING ON "LIFE."

IN all times there have been many persons whose tendency in calculating the purposes and results of human life was to strike the balance unfairly, and to make the most of losses while gains were but little considered. We are all, indeed, occasionally prone to recite the preacher's saying that "all is vanity," forgetful that this is regarded even by him as an inconclusive statement, and applicable mainly to his own experience. It is therefore all the more refreshing to find that some who have also made the world their school have arrived at an opposite opinion. Among these is Mr. Robert Browning. He is, as regards the course of human nature, an optimist. This fact, indeed, may explain his unpopularity with a certain class of readers. It is probable, at all events, that the lack of appreciation displayed by some critics of his works is partly due to a want of his firm and deep conviction that there is a needful struggle between good and evil, which must certainly end in the triumph of the former. Life, according to the poet, is worth living even when it ends in honest failure.

> "This world's no blot for us,
> Nor blank; it means intensely, and means good."

We are pleased to find this fact brought out with ample force of illustration in a paper read by Mr. Edward Berdoe, M.R.C.S., at University College, and entitled "Browning's Estimate of Life." The theme of all the poet's work, as here explained, is "that no factors in our life (however unpromising they may appear) can be spared consistently with our development and progress." Life, though in one sense a vapour and a shadow, is in another much more than this. Its purpose, if a true one, is not lost because of an unsuccessful issue, but in some way or other always exerts its force as a co-efficient in the work of progress. Though it do not reach the intended goal, it may find some other—perhaps a better,—and in any case has a place in that long battle of mind and circumstance by which character is formed.

> "There shall never be one lost good! What was, shall live as before;
> * * * * * *
> What was good shall be good.
> * * * * * *
> On the earth the broken arcs; in the heaven a perfect round."

The value of a high ideal is necessarily recognised in the life which is ruled by this heroic standard, and it is well expressed in the following lines:—

> "Better have failed in the high aim as I,
> Than vulgarly in the low aim succeed,
> As, God be thanked, I do not!"

Some, who are easily satisfied with a minimum of profitable exertion, would do well to cultivate this spirit of courageous enterprise.

THE VAGINAL AND UTERINE LOCHIÆ.

DR. ALBERT DÖDERLEIN of Leipsig has published some researches on the bacteriology of the lochial discharges of women in both normal and diseased puerperal states. He finds that the vaginal discharge must be examined separately from that which originates within the uterus, the clinical importance of micro-organisms being very different in the two cases. The vaginal lochia always contains a multitude of germs of various kinds, and if introduced into the bodies of animals is capable of producing abscesses. The uterine lochia, on the other hand, contains in the normal puerperal condition no germs whatever. When these appear, or at least soon after their appearance, a rise of temperature occurs, and when this latter has fallen the lochia is again found free from germs. Its removal appears to be due to increased secretion and separation of pus cells. Healthy uterine lochia may be introduced into the bodies of animals without causing any harm, but when there is fever and it contains germs septic symptoms in the animals are produced. In some cases not merely germs but streptococci have been found in the uterine discharges of patients with puerperal fever.

FEVER IN LONDON.

ALTOGETHER 134 patients were admitted into the hospitals of the Metropolitan Asylums Board during the week ending Jan. 20th. Of these, 119 were suffering from scarlet fever, 12 from enteric fever, 2 from small-pox, and in one the nature of the illness was doubtful. The small-pox cases were received from the parishes of Bethnal-green and St. Pancras. In the week ending Jan. 14th the total deaths in the metropolis from scarlet fever were 25, the corrected average for the same week during the preceding ten years being 42·7.

CLUB PRACTICE IN LEIPSIG.

THE Amalgamated Mutual Benefit Societies of Leipsig have issued an intimation that, owing to the unsatisfactory state of their finances, they are obliged to cut down the medical fees to little more than half what they have hitherto been—that is to say, in place of 1*s.* per visit the medical officers will now receive only about 6½*d.* The fee for advice at the doctor's house will be about 3½*d.* The members of the societies, who are shrewd enough to see the extreme folly of such a miserable cheeseparing policy, have met in large numbers, and passed resolutions strongly protesting against the indignity offered to the medical officers, and the absurdity of supposing that adequate medical attendance can be obtained for such a miserable sum. This episode may be commended to the attention of some dispensary doctors and their patients.

VIRCHOW ON CANCER.

PROFESSOR VIRCHOW'S article on cancer, of which we have published a full abstract, is an important expression of opinion from one pre-eminently able to speak with authority on such a matter. It will be seen that his article is in some sort a reply to Sir James Paget's recent lecture on the same subject, and it is evident that the great German pathologist is as firmly convinced as ever of the truth of those views first enunciated by him, and chiefly associated with his name. The discussion as to the relative value of a pathological and a clinical classification of malignant tumours is a somewhat barren one. It is easy to point to defects in each, or to cases where one has failed and the other succeeded. A really satisfactory classification of malignant tumours must be one that satisfies both the pathologist and the clinician; it must be in harmony with clinical as well as pathological facts. This will only be arrived at when it is made to be the outcome of both pathological and clinical research. The two departments of knowledge are too intimately connected to be separated, and nothing has tended so much to frustrate the many attempts to classify tumours as the failure to recognise the dependence of all clinical classifications upon pathological distinctions, and the great light thrown upon pathological classifications by clinical peculiarities. Virchow lays great stress upon the necessity, in any microscopical investigation, of carefully examining the deeper parts of a tumour, and the base of any fungating growth, rather than fringes or papillary outgrowths. This is of course a well-recognised fact, and its restatement now is probably owing to the undue importance attached to the microscopical investigation of a fragment of growth removed from the Crown Prince's larynx. Virchow evidently attaches no importance to the reported discovery of a cancer bacillus, nor does he think that the discovery of a cancer micro-organism is necessary to explain the known facts of the disease. He is strongly in favour of its local origin, and, firm in this belief, he entertains the hope that some means will yet be found of eradicating the disease in its early stage, when it is purely local. Whether this is to be by surgical interference or by the action of some drug he is not prepared to say; but he sees nothing in the nature of malignant tumours in their early stage to render them impossible of cure by the art of the physician, and he urges surgeons not to be too sceptical of the possibility of curing cancer by drugs.

STONE IN THE STOMACH.

CONCRETIONS, or stones, are not often found in the human stomach, though the bezoar of the abomasum and intestines of ruminants is well known, and in olden days was very highly esteemed as a remedy against poisons and infectious diseases, being even worn as a charm. Human intestinal agglomerates are occasionally found in oatmeal-eating districts, and have sometimes been dignified by the name of "avenoliths." An enterolith was found by Laugier in a human subject, the nucleus of which was formed by a piece of liquorice root. True gasteroliths are, however, occasionally found in human stomachs; thus Schönborn was able to collect seven such cases, all of which appeared to have formed round a nucleus of hair; one of these weighed two kilogrammes. Quite recently a Dutch physician, Dr. H. A. Kooyker, has described a case of a true gastric concretion weighing 885 grammes, in which there was no nucleus at all. The patient was a middle-aged man, who was so averse to examination and manipulation of all kinds that it was very difficult to form a diagnosis of his disease. He occasionally vomited blood, and gradually became more and more emaciated. A tumour was felt in the epigastrium, but its nature was not made out until the post-mortem examination revealed a stone measuring eighteen by eight centimetres nearly filling the cavity of the stomach. There was also a smaller stone situated at the pyloric extremity. These stones were of a brownish colour, and the large one contained several cavities. It had an offensive smell like that of fæces. A number of vegetable cells were found in it, but it was devoid of concentric or other structure. It does not seem to have been fully analysed.

BRITISH NURSES' ASSOCIATION.

A MEETING was held at the residence, and by the invitation of, Mr. Savory, President of the Royal College of Surgeons, on Monday evening, to consider in further detail the organisation of this Association. H.R.H. Princess Christian of Schleswig-Holstein and many leading members of the medical profession were present. The draft bye-laws were again discussed, and several most important questions fully considered. Finally, a strong sub-committee was appointed to elaborate the bye-laws, so that they can be presented early next month to a general meeting for final confirmation. Mr. Savory, when proposing a vote of thanks to her Royal Highness, announced that Princess Christian had not only promised to act as the head of the executive committee, but had also consented to be the first president of the Association. A vote of thanks to Mr. Savory, proposed by Mr. Thos. Smith and seconded by Sir Joseph Fayrer, concluded the proceedings.

THE PATHOLOGY OF DIPHTHERIA.

PROFESSOR M. J. OERTEL of Munich, who is well known for his contributions to the subject of diphtheria, has again earned the thanks of the scientific world, by the publication of a very complete monograph.[1] As the title indicates, the subject is studied entirely from the histological side, which is most amply illustrated in an atlas of beautifully executed drawings. Deferring for the present a detailed notice of what cannot but prove to be an important contribution to our knowledge of the pathological processes in diphtheria, we may simply content ourselves with directing attention to the appearance of this monograph, which is the result of a study continued over four years of the tissues and organs from a large series of cases. Professor Oertel dedicates his work to H.H. George II., Duke of Saxe-Meiningen, whom in flattering terms the author praises for his devotion to the cause of science.

THE FRENCH PARLIAMENT AND PARIS DRAINAGE.

AT last the question of a general drainage scheme for Paris has come before the French Parliament. The subject has for years been discussed and precious time lost in debates. In the meanwhile typhoid fever has become endemic in Paris, and as the population of the town increases the old evils are aggravated. Here and there cesspools have been abolished and the house-drains conducted direct to the sewer. In more numerous cases portable pails were introduced, which allow the liquid only to flow into the sewer. The water of the sewers, from these and other causes, has become more and more foul. So long as there was no better means of disposing of the sewage of Paris than to let it contaminate the river, it was difficult to propose the abolition of cesspools. Now, however, a Bill is brought forward to convert the plains of Achères into a large sewage farm. M. Raspail, the son of the celebrated Dr. Raspail, led off the opposition to this scheme. He pointed out that the solid matter travelled very slowly in the Paris sewers, that there was not enough water in the city, and that already the sewer gave rise to the most abominable odours. But then, most illogically, instead of

[1] Die Pathogenese der Epidermischen Diphtherie nach ihrer Histologischer Begründung. Leipzig: F. C. W. Vogel.

proposing the reconstruction of these sewers or the introduction of a separate system, he urged that a canal should be built to carry the sewage all the way to the sea. M. Alphand, Chief of the Public Works in Paris, defended the scheme with great effect, though his arguments were materially shaken by a letter read from Dr. Brouardel, who maintained that the recent bacteriological studies of MM. Pasteur, Wurtz, Sainte-Claire Deville, and his own investigations showed that there was a great difference between dead organic matter and the destruction of living organic matter such as microbes. It had been proved that microbes could travel a long distance through the earth without being killed. The question, however, may be asked, If it be true that sewage matter is so dangerous, and that microbes can travel long distances, then why throw the sewage into the Seine? It would not do more harm if thrown on to the land, and this would be more in keeping with nature's method of utilising such waste products. The health of a few inhabitants of Achères may thus be compromised; but actually a far larger number of inhabitants who dwell on the banks of the Seine from Paris to Havre are exposed to similar risks. Under these circumstances, we are glad to hear that the proposal to carry the sewer outfall to Achères has been sanctioned in the French Chambers by a majority of 297 against 223 votes.

FALSE ANEURYSM OF CALF OF LEG SIMULATING ABSCESS.

ON Dec. 26th, 1887, a patient, aged twenty-six, was admitted into St. Thomas's Hospital with a large non-pulsatile, tense, painful, fluctuating swelling of the calf of the left leg, which had been coming for three weeks. This was found on examination to be an enormous false aneurysm dependent on ulceration of the posterior tibial artery just below its origin. Mr. Battle, who was acting for Mr. Croft, tied the vessel below the ulceration, ligatured the anterior tibial, and also the popliteal above, removing the vessel between these ligatures. The incision, which was necessarily a long one, extended along the posterior border of the tibia into the popliteal space, and divided the tibial origin of the soleus. For a long time large sloughs washed away from the cavity left, which is now, we hear, almost closed by granulation, whilst the circulation in the limb is excellent. We hope to publish fuller details of this interesting case at a future date.

CREASOTE IN PHTHISIS.

THE treatment of phthisis by the internal administration of creasote has recently been employed in Prof. Koshlakoff's clinic in St. Petersburg, the results obtained forming the subject of a paper in the last two numbers of the *Vrach* by Dr. V. T. Bushuyeff. According to this author the creasote treatment of phthisis was originated by MM. Bouchard and Gimbert, who in 1877 published ninety-three cases treated in this way, of which number fifty-four had been greatly benefited by it. Since then several physicians have published accounts of successful results. Amongst the more recent writers on the subject, Sommerbrodt, Fraentzel, and Lublinski are mentioned. Creasote has been prescribed in various forms—with wine, glycerine, fish oil, and in capsules and pills. The quantity given by Dr. Bushuyeff was usually about three drops of creasote during the twenty-four hours. The number of cases in which it was given was twenty, and the duration of the treatment from one to six months. Of these twenty cases, ten were in the first stage, six in the second, and four in the third. In all those in the first stage the treatment was followed by a marked improvement. Four out of the six in the second stage were benefited, but none of those in the third stage. The improvement was shown by the diminution of the cough and of the expectoration, by the decrease or entire arrest of the fever and sweats, by the increase of the body weight, and in two cases with laryngeal trouble by the cessation of pain and the diminution of the laryngeal swelling. In five of the cases in the first stage it may almost be said that the creasote produced a cure, because the dulness and bronchial respiration as well as the râles ceased. The creasote never produced any undesirable effects except in one instance, in which a patient in the last stage of the disease took by mistake six drops (instead of three) for three days. This was followed by a stoppage of the diarrhœa, general anasarca, and a large quantity of albumen in the urine with casts, and some red blood-corpuscles. With milk diet these morbid symptoms rapidly disappeared. Dr. Bushuyeff analysed the constituents of the urine in some of the cases, and found that the nitrogenous metabolism in phthisical patients, as indicated by the ratio of the nitrogen of the partially oxidised nitrogenous constituents of the urine (urates, creatin, &c.) to the nitrogen of the urea, is less than in healthy persons, and that this ratio becomes still smaller when creasote is taken. The smallest ratio he found in his patients was 1:10·6 before taking creasote, and 1:7 while taking it. In healthy persons it is, according to Bartonovski, from 1:15 to 1:17.

ASSISTANTS AND NOTICE TO LEAVE.

IN the case of Bond *v.* Brereton, for an alleged wrongful dismissal and breach of contract, the defendant pleaded the refusal of the plaintiff to ride, to see a distant patient, as a justification. Previously to this, however, and very shortly after beginning work, with an understanding that if he suited at the end of a year he would have one-tenth of the last receipts, he was told that in consequence of unforeseen circumstances a branch practice had been given up, and his (the plaintiff's) services would not be required further. The defendant also showed that a sum equal to one month's salary had been paid into Court, and that the usual custom of the profession in contracts with assistants was one month's notice. The judge accepted the custom of the profession, and admitted that the defendant had complied with it. But he intimated that he gave judgment for the defendant reluctantly, as he thought the plaintiff had been inconsiderately treated.

IODINE IN ASCITES.

DR. RIVADENEYRA, writing in *La Correspondencia Médica* on ascites due not to lesions of the heart, kidneys, or liver, but to the general condition of malarial poisoning, speaks highly of the success of iodine applications. He applies the tincture to the surface of the abdomen in strips or fringes, leaving a breadth of clear skin between each. The untouched parts are similarly painted when the iodine has caused the skin to begin to peel off. In cases where the ascites is very considerable, paracentesis is first performed, and the iodine applications commenced a few hours afterwards.

THE SMALL-POX PREVALENCE.

SMALL-POX continues to spread in Stalybridge, where the corporation are stated to be in great straits because they have no infectious hospital of their own, and because the guardians decline to receive non-paupers at the workhouse. As to this, it must be obvious that workhouses were never intended to be made centres of infection to the risk of inmates who are so largely helpless. At Nottingham cases are also occurring, and they are being dealt with in the Bagthorpe hospital. In the vicinity of Nottingham the Basford rural authority are said to be contemplating the erection of a small-pox hospital, and the Chesterfield Town Council have it in view to purchase a temporary small-pox

hospital. Thus small-pox, which is the only infectious disease against which a community can protect themselves otherwise than by isolation, is likely once again to act as a leading stimulus in the provision of isolation hospitals, and also, we fear, of such hospitals as may in the end to do more harm than good.

THE POLYCLINIC IN ROME.

AT Rome on the 19th inst. the King of Italy laid the foundation stone of the new medical buildings outside the Porta Pia. "Il Policlinico," as they are called, will occupy a site of 160,000 metres, and will include every appointment and appliance for the most efficacious treatment of patients and instruction of pupils. The discourse on the occasion pronounced by the President of the Roman Academy of Medicine, Dr. Guido Baccelli, evoked the heartiest plaudits from the numerous auditory, which, besides the King, Queen, and the Crown Prince, comprised Signor Crispi (the Prime Minister) and other representatives of the Government, with the chief dignitaries of the University, the Commune, and the City.

THE WOMEN'S JUBILEE OFFERING.

THERE are few nursing institutions for the poor more worthy of private and public help than the North London Nursing Association. It was a branch, indeed, of a similar central institution, but it is now quite independent, and is doing an amount of work greater than that of the parent Society. Such is the statement, at any rate, of Mr. Isaac Butler, the treasurer, and Mr. Butler's statements are trustworthy. There is a staff of ten nurses, who are housed in the Holloway-road. During the past year they have nursed 1363 patients and paid 20,000 visits. Mr. Butler is naturally anxious for the definition of the Jubilee scheme of Her Majesty for benefiting those who nurse the poor, and not unreasonably hopes that his own institution may not be overlooked. Mr. Butler's anxiety is shared by many others. We sincerely trust that the development of the scheme will be encouraging to those already engaged in promoting such work.

CAUTERISATION IN MALIGNANT PUSTULE.

DR. MARTIN AYUSO considers that for the destruction of a virus such as that existing in malignant pustule the actual cautery is far inferior to chemical caustics, as these penetrate more deeply. The plan he adopts is first to draw a line with ink on the surface marking out the boundary of the œdema; then to make two or three crucial incisions, and in these to place pledgets of lint soaked in nitric acid. Pressure is then made over the whole by means of the foot of a wine-glass, or in some other convenient manner, for ten or fifteen minutes, so as to express the acid and cause it to act on the tissues. The lint is then removed and a dry dressing applied. If at the end of six or eight hours the œdema has extended beyond the marked boundary, a more extensive and more energetic application of the caustic is required.

CHLOROPHYLL.

PRINGSHEIM asserts that the green colouring matter of plants is not the agent which breaks up carbonic acid and eliminates oxygen, chlorophyll being but a screen to protect the living protoplasm from the powerful action of the sun. In certain conditions, he maintains, the cells can give off oxygen in the dark, and even colourless cells can do this. He has studied the movements of the protoplasm in green cells placed in various gaseous media without oxygen. Even a short exposure in an oxygenless atmosphere destroys the decomposing power of the cell for carbonic acid. This condition of "inanition," as it is called by Pringsheim, disappears when oxygen is readmitted, but not if the cell has been "asphyxiated" by too long deprivation of oxygen. He avers that no evidence of the presence of free oxygen in the vegetal tissues has ever been adduced, and he believes that the breaking up of carbonic acid results in the making up of a compound body from which oxygen is evolved as it is discharged from the cell by osmosis.

THE SHEFFIELD SMALL-POX EPIDEMIC.

STEPS have been set on foot in Sheffield which, it is trusted, may ensure trustworthy information as to the relation which vaccination at various periods of life has borne to liability to small-pox during the serious epidemic which has now for so long a time prevailed in that borough. At a meeting of the guardians of the Sheffield Union it was a few days ago decided to appoint a number of officers to make a house-to-house visitation, with a view to obtaining a census of the people as to vaccination and revaccination. At the same time especial facilities are being afforded, both in the Sheffield and the Eccleshall Unions, for the performance of these operations; and this the more because Dr. Barry has informed the authorities that by vaccination alone can the epidemic at this stage be materially checked.

NARCOLEPSY.

LEGRAND writes on Narcolepsy in the current number of the *France Médicale*. Narcolepsia consists in sudden attacks of deep sleep lasting some minutes; not days like trance, or seconds like petit mal. Moreover, the condition is one apparently of simple sleep, from which the patient may easily be roused. Encephalic congestion resulting from cardiac deficiency, gastric troubles or hepatic derangements, and such diseases as gout, diabetes, and rheumatism, are some of its associations. Hysteria may dispose to it, but in some cases narcolepsy appears to be a true and isolated neurosis.

MARGATE.

THE steps necessary for providing Margate with a system of drainage are progressing, and we learn that on Thursday of last week the Drainage Committee of the Town Council recommended that Mr. Baldwin Latham should be employed to advise generally as to the drainage of the town, and to submit a plan with estimate of the cost. It will therefore probably not be long before the work is begun; we sincerely hope that the Town Council will not be deterred by the expense which must be incurred from carrying their present intentions into effect. Margate will be one of the most popular watering-places in the kingdom when its drainage and water supply are above suspicion.

AN EPIDEMIC OF INFANTILE PALSY.

No reason can be assigned why infantile palsy should not occasionally occur in epidemics. We know next to nothing of its real causation at any time, and its pathology is by no means a settled subject. M. Cordier has observed an epidemic of this malady of thirteen cases occurring in a period of two months (June and July, 1885), in a population of 1500 souls. The age varied from one to thirty months, and nearly all the children were in perfect health. Four of them died on the third day of the disease. Fever, convulsions, profuse sweating, and paralysis of variable extent, observed on the second or third day, were the chief symptoms. The amelioration and regression of the paralysis and subsequent localisation with deformities leave no essential doubt of the nature of the malady. Naturally, the

author inclines to the belief than an infectious agency must have been at work. May not infantile palsy be akin to acute specific fevers or acute lobar pneumonia, with its localisation in the cord instead of in the skin or lungs?

METROPOLITAN HOSPITAL SUNDAY FUND.

BY permission of the Lord Mayor, the first meeting of the Council of the Metropolitan Hospital Sunday Fund was held at the Mansion House on the 23rd inst. Professor Marks, in the absence of the Lord Mayor during the former part of the meeting, presided, and was supported by Sir Reginald Hanson, Bart., Sir J. Risdon Bennett, Canon Gilbert, D.D., Canon Ingram, M.A., the Rev. S. B. Burnaby, Mr. Wakley, Mr. Burdett, the Rev. Mr. Simpson, Mr. Carr Gomm, Dr. Glover, and others. On the arrival of the Lord Mayor some time afterwards, Prof. Marks was requested to retain possession of the chair. The annual report of the Council stated that the Fund for the past year had reached £40,607 7*s.* 8*d.*, against £40,399 7*s.* 7*d.* collected in the previous year, and with an average of £31,572 7*s.* 9*d.* in the last fifteen years. The congregation of St. Michael's, Chester-quare, again headed the list of contributors with £1028. The total amount available for distribution, after allowing sufficiently for liabilities and the annual current expenses, was £39,125. Of this total £37,525 was now recommended to 107 hospitals and 50 dispensaries. Four per cent. of the total collected—£1600—had been set apart for the purchase of surgical appliances. The retiring members of the various committees, together with the officers of the Fund, were then duly re-elected, after which the meeting terminated.

DIPHTHERIA AT ENFIELD.

DIPHTHERIA has prevailed in Enfield to an extent that has caused considerable local alarm, and the Local Government Board have called for a report on the subject from the medical officer of health. By some the epidemic character of the disease has been held in doubt, but the sceptics are, it is stated, now convinced of the danger with which the district is affected.

THE USES OF COMPULSORY NOTIFICATION.

THE effort made by Dr. Tatham of Salford to utilise the information obtained under the system of compulsory notification of infectious diseases for more than mere local purposes has so far been extremely successful. No less than twenty-five towns have responded to his request for weekly information of the number of cases notified in their respective districts, and Dr. Tatham, in return, has now taken upon himself the task of compiling the data received, and of despatching a summary of them, in a tabular form, to the medical officers of health of each of the contributing districts, for their "confidential" information. Dr. Tatham and his authority, who are evidently giving him their support in the matter, deserve great credit for the useful experiment they have inaugurated.

TETANUS AFTER HYPODERMIC INJECTION.

A CHILD six years old suffering from miliary fever was treated first with quinine administered in pilules and by inunction, and then by a subcutaneous injection of the alkaloid. One month later the fever had disappeared, but the child complained of pains in the left arm and at the point of injection; trismus supervened in three days, tetanus developed, and death occurred on the sixth day. If this was really a case of traumatic tetanus, the period of incubation was rather longer than the usual seven to fourteen days.

THE HEALTH OF THE CROWN PRINCE.

THE reports which reach us from San Remo are of a reassuring character. It appears that a small slough recently took place in the situation of the growth which was observed in the early part of November, and it is thought by the resident physicians that some exfoliation of cartilage is taking place. The *débris* was, we believe, sent to Professor Virchow, but, according to the accounts from Berlin, it has not yet reached him. Although perichondritis may take place in any chronic affection of the larynx, it is very rarely a prominent feature in cancer, in which disease, moreover, it need scarcely be pointed out, a reparative process, such as now seems to be going on, is rarely met with. We shall probably have further details after Sir Morell Mackenzie arrives at San Remo.

DEATHS OF EMINENT FOREIGN MEDICAL AND SCIENTIFIC MEN.

THE deaths of the following foreign medical and scientific men are announced:—Dr. Gustav Hoffmann of Breslau, Medical Privy Councillor, who began the study of medicine after being obliged to retire from the army, in which he held the rank of captain, in consequence of wounds received at the siege of Frederica in 1850. At the age of thirty-six he worked up for the matriculation examination, and, though considerably handicapped by his wounds, he passed through his medical studies, and subsequently gained as high distinction in his new profession as he was expected to have obtained in that to which he first devoted himself.—Professor de Bary, the well-known botanist of Strassburg, at the age of fifty-seven.—Dr. Gustav Wertheim, Extraordinary Professor of Dermatology in Vienna.

SHIP COMPANIES AND CARE OF INVALIDS.

IT seems very probable that ship companies will have a very growing responsibility in connexion with the treatment of delicate people. The number of patients taking all the risks and discomforts of the sea for the sake of its greater benefits, or some sunny climate beyond, is great and increasing. On the whole, we do not think that either ship officers or ship owners are insensible to their duties in connexion with the conveyance of sick passengers. But an instance is reported to us in a letter. The writer complains that "they" were landed at Santa Cruz, *en route* to Orotava, in the night, and that at that inconvenient time they had to find rooms. The place was very full, and no little difficulty was experienced. They got to bed about two o'clock in the morning. One poor fellow fainted at the landing-place, and at the time of writing was laid up at Santa Cruz. Surely a large company which advertises to take delicate people to Teneriffe, or any other health resort, should order its officers to arrange the landing of passengers by day. Little time would be lost, and much gratitude would be gained.

FOREIGN UNIVERSITY INTELLIGENCE.

Constantinople (School of Medicine).—Dr. Ahmed Bey has been appointed Director of Studies in place of Dr. Ahmed Pasha, deceased.

Dorpat.—Dr. Theodor Wyder, *privat-docent* in Berlin, has now been definitely appointed to the chair of Obstetrics and Children's Diseases. Dr. Wyder is a Swiss by birth, and wa educated at Zurich, Tubingen, and Strassburg.

Ghent.—Dr. A. de Cock has been promoted to the Professorship of Clinical Surgery.

Konigsberg.—The candidates who are likely to be brought forward for the Professorship of Pathology and Therapeutics, which will be vacated by Professor Naunyn's

transfer to Strassburg, are Professors Eichhorst of Zurich, Lichtheim of Berne, von Mering of Strassburg, and Dr. Leichtenstern of Cologne.

Liège.—Dr. X. Francotte has been appointed Lecturer in General Pathology in place of Professor Masius.

Lisbon.—Senhor P. A. Bettencourt has retired from the post of Secretary and Librarian. Two new hospitals are about to be erected in connexion with the Hospital S. José.

St. Petersburg (Military Medical Academy).—During the past year sixty-eight persons received the degree of M.D., 140 that of medical practitioner (*vrach*), thirty-one that of dentist. At the commencement of the session, Sept. 1887, the total number of students was 915, 116 of whom completed their course, twenty-one with distinction. The gold medal was awarded to Gospodin Grammatikoff for his thesis on "The Significance of Albuminuria in Acute Infectious Diseases."

Würzburg.—Dr. Seüffert has been appointed first Assistant Physician in the Medical Clinic in place of Dr. Krieger, who has accepted an appointment in the German Hospital, New York. Dr. Steinart has been appointed Assistant Medical Officer to the Polyclinic. The veteran Professor Scanzoni, who is about to retire, will probably be succeeded by one of his old pupils, P. Müller, now professor in Berne.

THE *London Gazette* of the 24th inst. announces that the Queen has been pleased to appoint Sir Edward Henry Sieveking, M.D., LL.D., Physician Extraordinary to Her Majesty, to be one of Her Majesty's Physicians in Ordinary, in the room of Sir George Burrows, Bart, M.D., deceased, and that she has also been pleased to appoint Richard Douglas Powell, Esq., M.D., to be one of Her Majesty's Physicians Extraordinary.

THE corporation of Chester have under consideration the question of erecting a new fever hospital. For many years past a separate fever pavilion has been in use on the grounds of the General Infirmary; but it is easy to understand that the sanitary interests of the borough demand something beyond the present provision.

THE *New York Medical Record*, in its issue of the 14th inst., announces the death on the 7th inst. of Dr. Wesley M. Carpenter, Clinical Professor of Medicine in the Medical Department of the University of New York, and a prominent figure in the scientific and literary circles of that city.

THE Peninsular and Oriental Company's steamship *Malwa* arrived in Plymouth Sound from Shanghai on the 22nd inst., and reported having small-pox on board. Four sufferers were removed to the floating hospital ship, and the vessel was permitted to sail for London.

THE Hornsey Local Board has just decided almost unanimously to recommend the insertion of a clause in the Local Government Bill to make it imperative that all cases of infectious disease should be notified to the local health authority.

THERE seems to be an outbreak of the anti-vaccination mania at Gloucester. In the two districts of the city 340 persons have refused to have their children vaccinated, and the Board of Guardians have declined to prosecute the defaulters.

UP to the middle of this month there had been some 500 cases of measles in Canterbury, and during the previous fortnight no less than twenty-three cases had terminated fatally.

Pharmacology and Therapeutics.

A NEW ANÆSTHETIC: ERYTHROPHLŒINE.

DR. LEWIN of Berlin has examined an arrow poison called Haya, a poison sent to him by Messrs. Christy and Co., and received by them from Africa. The following particulars are gleaned from an article published in the *British and Colonial Druggist* The poison was found to contain some pieces of sassy bark, the ordeal poison of the Africans (Erythrophlœum judiciale). Dr. Lewin separated an alkaloidal substance soluble in water and not reducing Fehling's solution. Having often heard of an arrow poison which caused insensibility, Dr. Lewin proceeded to ascertain whether the Haya poison could produce anæsthesia of the cornea, and he found that it could, though it was a little longer in developing than from cocaine; it lasted, however, for eight or ten hours as it gradually faded. The application produced a passing irritation of the conjunctiva. The action of a concentrated aqueous solution on the frog's heart was to diminish the pulsations from 30 to 8 per minute, and paralysis of the extremities also occurred. These effects were also noticed in warm-blooded animals. The after effects were most remarkable, especially in small dogs, in which the respirations, after twenty or thirty minutes, became arythmical, very rapid, with pauses of short duration, becoming later on protracted, with dyspnœa and languor, the head drooping, while the position of the body remained normal; there was free salivation. Then the head began to tremble, the animal lay on its side, and the extremities became paralysed. Dyspnœa set in, and with it peculiar convulsions, during which the head was drawn close up to the body, the eyes were convulsively closed, and an undulating spasm passed over the whole length of the muscles of the body, which appeared also to affect the intestines; the almost paralysed limbs were not subject to these convulsions. Decreasing sensitiveness of the surface of the body followed, and death ensued without convulsive effort. The convulsions were noticed to be more severe when using the poison extracted by alcohol and diluting it with water. The aqueous or the alcoholic solutions, injected subcutaneously into a pigeon, produced constant vomiting, frequent evacuations, and protracted breathing, as noticed in the previous case; dyspnœa then appeared, and death took place, with convulsions of short duration. Administered to pigeons by the beak, large doses only produced constant vomiting and diarrhœa; while small dogs and pigeons, when even so small a quantity as 0·03 gramme was injected subcutaneously, died from the effects. Pigeons remained healthy when even as much as 0·22 gramme was given by the beak. Dr. Lewin concludes from his experiments that the Haya poison may safely be classified with the African poisons already known. The effects of the poison reminded him very much of those he had noticed with the poison of the Somali, the so-called Onabaio, and the effects of the latter resembled the intoxication produced by the erythrophlœum. Besides these coincidences, his suspicions were more or less confirmed by the fragments of epidermis which he had found in the poison, and which strongly reminded him of the erythrophlœum bark. It was not, however, known that the erythrophlœum contained a principle having a local anæsthetic action; neither was the sulphuric acid reaction which he discovered in the Haya poison known. His suppositions were found to be correct, for a 2 per cent. concentrated solution of hydrochlorate of erythrophlœine obtained from Merck, immediately produced, with contraction of the pupils, insensibility of the eye, lasting from ten to twenty-four hours; but the irritating principle the erythrophlœine contains is present in too great a quantity for it to be neutralised in the concentrated solution; and this was proved by it producing in cats irritation of the cornea, much salivation, running at the nose, and violent sneezing. It is worthy of notice that solutions of 0·25 per cent., or even 0·10 per cent., of erythrophlœine produced, without apparent irritation, in cats, dogs, guinea-pigs, &c., anæsthesia of the cornea after about fifteen or twenty minutes, as was the case with the Haya poison, the pupil remaining unchanged for many hours. A solution of the Haya poison was injected subcutaneously into a guinea-pig, and produced so profound an insensibility of the part treated that he was able to cut down as far as the muscles without any discomfort to this most

sensitive animal. Frogs in which tetanus was produced by injecting erythrophlœine into the leg showed no reaction of that limb when pricked, and the tetanus could not be removed.

ANTIPYRIN.

Not only does antipyrin diminish fever and appease pain, but according to Henocque and others it also checks hæmorrhage. For arresting epistaxis and similar bleedings the powder should be insufflated into the nasal chambers, or a solution of antipyrin may be applied by means of a plug of cotton-wool. It is said to be of value also in checking hæmorrhage from the ulcerating surfaces of carcinoma of the breast, and, besides, acts as an antiseptic. Strips of lint may be soaked in the solution and applied as a wet dressing.

ACETANILIDE AS A NERVINE DRUG.

Antipyrin and its allies are now prescribed in all forms of nervous disease—in epilepsy, chorea, migraine, and neuralgia—with considerable success, it is alleged. Dr. Ott has tried acetanilide in nervous headaches, trigeminal neuralgia, and in dysmenorrhœa. Doses of half a gramme, or eight grains, were given by the mouth and repeated in an hour or two hours; menstruation does not contraindicate its use. It may be given in a powder enclosed in a capsule, at most three times a day in the dose mentioned. A little wine or brandy may be allowed afterwards, if necessary.

SALICYLATE OF BISMUTH IN CHRONIC DIARRHŒA.

In children Solger has found this salt to prove successful in cases of chronic diarrhœa, rebellious to many other kinds of remedies. It is given as a powder in eight-grain and ten-grain doses three times a day for a child of three years, either fasting or on a full stomach. The efficacy of the drug appears to depend on its disinfecting property, rendering impossible the growth and multiplication of the germs of the intestinal canal. Gutmann believes that Gehe's (Dresden) preparation is so good because of the large proportion of bismuth it contains. In some cases of flatulence the salicylate has also proved efficacious.

IODISED WINE.

According to M. Barnouvin, a litre of iodised wine may be made by adding to the necessary quantity of any wine a solution of from forty to fifty centigrammes of iodine dissolved in fifteen grammes of alcohol. He holds that the preparation of iodised wine by fermentation offers no real advantages, and he states that wines containing a small percentage only of tannin are very suitable for the above-mentioned method of manufacture.

CARBOLIC ACID AND CHLORAL IN WHOOPING-COUGH.

M. Solles gives carbolic acid in minute doses, with larger doses of chloral, to infants suffering from severe pertussis. Thirty centigrammes (five grains) of carbolic acid in one day may be given to the mother in syrup-and-water if the baby is at the breast, and the infant itself may take as much as forty centigrammes (six grains) of chloral hydrate in the twenty-four hours.

ALCOHOL AND PEPSINE.

It is still a disputed point whether alcohol prevents pepsine from exerting its property of converting albumens into peptones. Nesslern states that pepsine is not soluble in strong alcohol, and that if the percentage of alcohol is above 20, the pepsine loses its activity, and this the more completely the more concentrated is the alcoholic solution.

SCIATICA.

Enveloping the affected limb in a coating of flowers of sulphur for one night is said to cure sciatica; the urine next morning is stated to smell strongly of sulphuretted hydrogen. The skin should be thoroughly cleansed first.

CARBOLIC ACID IN DIPHTHERIA.

M. Roulin has successively treated twenty-two cases of diphtheria with carbolic acid as an antiseptic. Nasal douches, consisting of three teaspoonfuls of the crude acid in a litre of a water, were employed every hour by means of the ordinary irrigator. Tonics were given internally.

AN ITINERANT DISPENSARY.—An itinerant clinic or dispensary has been established in Roumania under the direction of Dr. Bejan of Bucharest. During last summer, itinerations were made in two districts in which there is a great scarcity of doctors, and no less than 9000 patients were treated.

BRITISH MEDICAL BENEVOLENT FUND.

THE annual general meeting of subscribers to this Fund was held on the 12th inst. at the residence of the treasurer. The chair was taken by Dr. Jonson, chairman of committee. The first business was the election of a president in place of Sir George Burrows, Bart., M.D., F.R.S., deceased. Dr. Broadbent, the treasurer, proposed the election of Sir James Paget, Bart., F.R.S. This was seconded by Mr. J. F. France, J.P., also a vice-president, and carried unanimously.

The Treasurer then presented his financial report and the balance sheet for 1887, from which it appeared that in the donation department £704 6*s.* 6*d.* had been received as subscriptions and £1266 0*s.* 5*d.* in donations, while returned grants and other items made the income of the year £2139 2*s.* On the other side, grants to 166 applicants had been made, amounting to £1791 10*s.*, and the expenses had reached £137. There was a larger balance than usual at the bank, accounted for by the fact that the last meeting of the committee had been held on Dec. 21st, and that some of the local secretaries had paid in their collections before the close of the year. In the annuity department the investments had realised £1233 13*s.* 2*d.*, and there was an item to be noticed in the payment of £5000, free from duty, by the executors of the late Sir Erasmus Wilson. The annuitants number sixty-four, and the sum distributed amounted to £1260, which distribution is carried out by the chairman of committee, Dr. Jonson, at a very trifling cost. The report of the committee stated that the Fund had laboured under some disadvantages owing to the fact that a special effort had been made during 1886, and also on account of the counter-attraction of Her Majesty's Jubilee, so that the income of the Fund had thus somewhat fallen off, and consequently the money for disposal was often insufficient. It is hoped, however, that the subscriptions and donations during the coming year would maintain the average improvement which had taken place up to the present. In the committee two vacancies had occurred, which were filled by the election of Dr. M. Baines and Dr. Cooper Rose. It was a matter of regret that there had been no addition to the number of honorary local secretaries, a most useful portion of the machinery of the Fund, as by their means the committee is enabled to ascertain directly, and with the least amount of publicity, the *bona fides* of applicants in the country.

Amongst the subscriptions to the Fund to be specially noted were: £21 from Sir William Jenner; £200 from Mr. Winter, of Brighton; £50 from the Faculty of Physicians and Surgeons of Glasgow, through Sir G. H. Macleod; £25 from John Morgan, Esq.; £21 from Dr. Cumberbatch.

The death of Sir George Burrows, president, was felt as a great loss to the Fund, which he had joined as a member of committee in 1850, becoming vice-president in 1859, and president in 1869, continuing to serve in that capacity until the date of his death, a period of eighteen years.

The characteristics of the Fund are:—No institution, no salaries, or rent, the only expenses incurred being those for printing and postage, and a small commission to a collector. Applicants have only to send in a form authenticated by a subscriber, and two or three letters, one of which must come from a medical man, when, if the case is otherwise suitable, a grant is made at once, and distributed either in one sum or by instalments according to the judgment of the committee. Then, if the applicant's age is over sixty, and the income low enough to justify it, the name is placed upon the list of candidates eligible for an annuity, from which list annuitants are selected twice a year as vacancies occur.

HEALTH OF THE IMPERIAL JAPANESE NAVY.

THE report upon the health of the Imperial Japanese Navy for the year 1886 by the Medical Director-General Takaki Kanehiro shows an improvement even upon the satisfactory results for 1885. The average strength during the year was 8475; the cases among them amounted to 4653, and the deaths to 63, being in the ratio of 549 and 7·43 per 1000. Six of the deaths were by drowning, so that the death-rate, exclusive of these, was only 6·72 per 1000. The discharges by invaliding were in the ratio of 6·14 and

the mean daily sick of 37·6 per 1000. In the classified return of the cases, 1323, or 156 per 1000 of the strength, are entered under the head of "inflammation and its sequels," but it is difficult to say what are the diseases included under it; there were no deaths, and only 5 invalided. "Infectious or contagious diseases" were the cause of 21 deaths, being in the ratio of 2·48 per 1000. Enteric fever furnished 21 cases, with 9 deaths; cholera 19 cases, with 10 deaths; and simple continued fever 28 cases, with 2 deaths. Diseases of the respiratory system come next in point of mortality, the deaths by them having been 19, but this includes 13 from phthisis, of which there were 19 cases; the other 6 deaths were from pleurisy and pneumonia. The only other class involving a considerable number of deaths was that of injuries, which caused 10; of these, 6, as already stated, were by drowning, 1 gunshot wound, 1 concussion of brain, and 2 fracture. There were only 3 cases of kakké during the year, and all recovered; one returned from desertion affected with the disease, one joined the service with it, and the third was a musician. This almost complete immunity in a service which formerly suffered so much from it is very gratifying, and affords strong proof of the accuracy of Mr. Takaki Kanehiro's opinion that it depended on the food. To the improvement of the diet which took place in 1884-85 this exemption seems to be entirely due. During 1886 a slight alteration was again made in the dietary, chiefly by the reduction of the amount of rice and an increase of barley, bread, vegetables, and milk. Syphilis and gonorrhœa are, as in our own service, the causes of a considerable amount of inefficiency, the cases having been 908, or nearly one-fifth of the total number. Conjunctivitis is prevalent, there having been 351 cases, or 41·4 per 1000 of strength.

A table is given under the head of "enlistment," which shows that 11,576 men were medically examined and only 1649 passed into the service. Of the rejected, 1835 were for deficiency of stature; the number rejected on medical grounds was therefore 8092, or 699 per 1000. We are not informed of the conditions under which the recruits are examined, or whether the enlistment is voluntary or compulsory. Vaccination appears to be carried out with care, and with satisfactory results. There were only five cases of small-pox in the service during the year, and all recovered.

There is a discrepancy in the report for which we do not find any explanation. In the tables on page 11 and page 13 only 54 deaths are entered, while in the other tables they are correctly stated as 63. A diagram is given showing the comparative scales of weights of the petty officers and seamen, taken monthly in the three years 1884-5-6, but as the ages and heights are not given the results are of little importance.

The very satisfactory health condition of the force is much to the credit of the Director-General under whom the important changes were introduced which have been followed by such gratifying results.

MEDICAL TRIAL.

BROMSGROVE COUNTY COURT.

(Before SIR R. HARRINGTON.)

CHARGES FOR MEDICAL ATTENDANCE AND MEDICINES.

MESSRS. BATTEN AND ELLIOTT, surgeons, Bromsgrove, brought an action against Mr. Edward Arnold, farmer, Longbridge, to recover £2 5*s.* 6*d.* for medical attendance and medicine. The claim was disputed on the ground that the charges were excessive, and that in settling a previous account Mr. Batten had agreed that all the other items owing should be included in that settlement.

Mr. William Smith Batten stated that his charges were fair, and had never been disputed by defendant. He admitted having a conversation with the defendant on the settlement of an account paid on July 22nd, 1884, and agreeing that some items not stated in that account should be included in the settlement, but that referred to items owing to himself only, and not to any charges incurred since he entered into partnership with Mr. Edgar Elliott, in November, 1883. He had charged 6*s.* for each attendance, being 1*s.* a mile for six miles, and 3*s.* 6*d.* a bottle for medicine.

Mr. Edgar Elliott was examined as to the charges in the account sued for, and he stated that he charged 10*s.* 6*d.* for each attendance and 3*s.* 6*d.* for each mixture, there being three attendances and four mixtures.

His honour, in giving judgment for defendant, referred to the length of time which had been allowed to elapse before the proceedings were taken to recover the amount. As the items in the account were dated November 1st, 1883, to March 25th, 1884, he thought they must have been referred to in the conversation between Mr. Batten and defendant when the former account was settled, and Mr. Batten's memory was at fault in the matter. If he had given judgment for the plaintiff he should have had to deal with the charges. He did not think 10*s.* 6*d.* was unreasonable to charge for going six miles; but defendant had been previously charged 6*s.*, and no notice had been given to him of an increase. The practice of charging so much per bottle for mixtures, irrespective of the cost of the drugs, was very unsatisfactory. Under the old law an apothecary was not allowed to charge for his attendance, and consequently it was the practice to charge an exorbitant price for the drugs supplied, to pay for the attendance; but the law had been altered to do away with that, and a registered surgeon was now entitled to charge for his attendance, and there was no reason for charging for the mixtures more than their value. The practice of so charging would not be allowed to stand in his court; and if cases of the kind came before him he should have to inquire the cost of the drugs supplied, whether they were salts and senna or quinine.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Sanitary State of the Borough of Helston, by Dr. F. PARSONS.[1]—In 1882 Dr. Ballard had inspected this borough, and the renewed inquiry made in November, 1887, was to ascertain what action had been taken as the result of the previous visit. Dealing *seriatim* with the present state of the town, Dr. Parsons says he found many cottages in a bad state of repair, and some quite unfit for human habitation. There are no public sewers, the sewage flowing down both sides of the street in open kennels, down which water from adjoining springs should run continuously; but the absence of adequate flushing makes the kennels at times offensive. These kennels also receive watercloset contents, and the sewage as a body is at last impounded to turn a water-wheel, the result being a large accumulation of sludge in the mill-pond. Privy ashpits are large and wet; they are not water-tight, but leak over the ground; some few are roofed in. Yards are in a filthy state, mainly from want of paving, and by reason of pigs, poultry, and other animals. The water supply is derived from quasi-public wells or shoots, some under the pavement and close to the kennels, the contents of which it has been sought to exclude from the water. Other sources are also open to suspicion, and in some samples the proportion of nitrates, free ammonia or albuminoid ammonia, and in all of them that of chlorine, was above the standard for unpolluted water. In short, in comparing the present condition of the borough with the description of it in 1882, Dr. Parsons cannot find that any distinct improvement has been effected. The medical officer of health receives the miserable salary of £10 a year, and the authority, not expecting much in return, have never so much as asked him to attend one of their meetings. He has, however, made certain recommendations of value to them. Bye-laws are in force, but are ignored in important respects; slaughter-houses have their walls begrimed with filth; dairies, cow-sheds, and milk-shops are unregulated, and one cowshed was found filthy and unventilated. In comparing this little town with England and Wales as a whole for a period of ten years, we find that its general death-rate is higher than that for the whole county by 2·6 per 1000, and its infantile death-rate by nearly 3 per 100 births registered. It did not during

[1] Eyre and Spottiswoode, London; Adam and Charles Black, Edinburgh; Hodges, Figgis, and Co., Dublin.

that period suffer from excess of infectious disease, but this comparative immunity is certainly not due to the abundant facilities which are within the place to secure the spread of contagion on importation. Dr. Parsons concludes by expressing a hope for better things.

On the Sanitary State of Helston Rural District, by Dr. PARSONS.[2]—The Helston rural district, including the attractions of the Lizard Promontory, was also inspected by Dr. Parsons. After a general description of the district, it is pointed out that, although the newer houses are of a substantial character, others built on leases held on the lives of old persons were in a very neglected and insanitary state. Many houses are also damp and ill-ventilated. Drains are of the rudest character as a rule, and except pail-privies, which have been brought into general use in the village of Cadgwith, the closet accommodation is mostly such as to ensure nuisance and offensiveness. The water supply is unsatisfactory, mainly on account of its deficiency and because the sources are so often mere shallow dipping wells. Since Dr. Ballard's inspection in 1882 the Local Government Board drew the attention of the authority to the need for action under the Public Health Water Act; but this has been without effect. In this district there is an active and zealous health officer (Mr. N. R. Haswell), and the two inspectors of nuisances, though ill-paid, have done much in reporting nuisances that called for remedy. But little in the way of sanitary work has been carried out by the authority, mainly because of the fear of incurring expense in the face of depression of local industries. At Coverack the authority and the public jointly bore the expense of a water service; and in some places, such as Porthieven, much has been done to effect improvement in the way of excrement and refuse disposal since Dr. Ballard's visit in 1882; but improved drainage is still much wanted there. Summarising the results reported, it appears that in the populous parts of the district very insanitary conditions prevail, especially defective drainage, scarcity of water, and accumulations of filth. There is also an excessive mortality, and the excess is stated to be of a sort that is probably preventable by more energetic action on the part of the sanitary authority.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 6016 births and 4145 deaths were registered during the week ending January 21st. The annual rate of mortality in these towns, which had been 23·8 and 23·3 per 1000 in the preceding two weeks, further declined last week to 23·0. During the first three weeks of the current quarter the death-rate in these towns averaged 23·4 per 1000, and was 0·9 below the mean rate in the corresponding periods of the ten years 1878-87. The lowest rates in these towns last week were 17·0 in Brighton, 18·1 in Hull, 18·2 in Bristol, and 18·5 in Oldham. The rates in the other towns ranged upwards to 25·5 in Plymouth, 26·8 in Manchester, 28·1 in Blackburn, and 28·8 in Portsmouth. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 493 and 476 in the previous two weeks, were last week 481; they included 195 from whooping-cough, 65 from scarlet fever, 56 from measles, 50 from "fever" (principally enteric), 36 from diphtheria, 30 from small-pox, and 29 from diarrhœa. No death from any of these zymotic diseases was recorded during the week either in Huddersfield or in Halifax, whereas they caused the highest death-rates in Nottingham, Bolton, and Sheffield. The greatest mortality from whooping-cough occurred in Salford, London, Wolverhampton, and Leicester; from scarlet fever in Bolton, Cardiff, Preston, and Birkenhead; and from measles in Nottingham, Blackburn, Derby, and Bolton. Of the 36 deaths from diphtheria in the twenty-eight towns, 22 occurred in London, 4 in Nottingham, 3 in Liverpool, 2 in Oldham, and 2 in Newcastle-upon-Tyne. Small-pox caused 25 deaths in Sheffield, 3 in Bristol, and 2 in Nottingham, but not one in London or in any of the twenty-four other large provincial towns. The Metropolitan Asylum hospitals contained only 5 small-pox patients on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum hospitals and in the London Fever Hospital was 1837 at the end of last week, against numbers declining steadily in the preceding six weeks from 2764 to 1808; the 133 cases admitted to these hospitals showed a decline from the numbers in recent weeks. The deaths referred to diseases of the respiratory organs in London, which had increased in the preceding four weeks from 357 to 579, further rose last week to 594, and exceeded the corrected average by 29. The causes of 79, or 1·9 per cent., of the 4145 deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol and in four other smaller towns; and the largest proportions of uncertified deaths were recorded in Huddersfield, Hull, and Salford.

[2] Ibid.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 27·1 and 24·0 per 1000 in the preceding two weeks, further declined to 23·3 in the week ending Jan. 21st; this rate exceeded, however, by 0·3 the mean rate during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 17·5 and 18·2 in Leith and Greenock, to 25·7 in Aberdeen and 26·5 in Dundee. The 588 deaths in the eight towns showed a further decline of 19 from the numbers in recent weeks, and included 24 which were referred to whooping-cough, 15 to measles, 13 to diarrhœa, 6 to "fever" (typhus, enteric, or indefinite), 5 to diphtheria, 3 to scarlet fever, and not one to small-pox; in all, 66 deaths resulted from these principal zymotic diseases, against 91 and 78 in the preceding two weeks. These 66 deaths were equal to an annual rate of 2·6 per 1000, which was 0·1 below the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had been 30 and 26 in the preceding two weeks, further declined last week to 24, of which 12 occurred in Glasgow, 5 in Aberdeen, and 3 in Edinburgh. The 15 deaths from measles showed a decline of 11 from the number in the previous week, and included 6 in Edinburgh, 6 in Leith, and 2 in Glasgow. Of the 13 deaths attributed to diarrhœa, an increase of 3 upon the number in the previous week, 5 occurred in Edinburgh and 3 in Aberdeen; in the corresponding week of last year only 7 deaths from this cause were registered. The 6 deaths from "fever" and the 5 from diphtheria showed a decline from the numbers in the previous week; those from "fever" included 3 in Edinburgh and 2 in Glasgow, while 3 of the 5 from diphtheria occurred in Glasgow. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 184, 163, and 159 in the preceding three weeks, further declined last week to 155, and were 10 below the number returned in the corresponding week of last year. The causes of 77, or nearly 15 per cent., of the deaths registered during the week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 38·6 and 35·8 per 1000 in the preceding two weeks, further declined to 31·9 in the week ending January 21st. During the first three weeks of the current quarter the death-rate in the city averaged 35·4 per 1000, the mean rate during the same period being but 23·6 in London and 26·7 in Edinburgh. The 216 deaths in Dublin last week showed a decline of 26 from the number in the previous week; they included 8 which were referred to "fever" (typhus, enteric, or simple), 7 to scarlet fever, 5 to whooping-cough, 4 to diarrhœa, 3 to diphtheria, 2 to measles, and not one to small-pox. Thus the deaths referred to the principal zymotic diseases, which had been 33 and 32 in the preceding two weeks, further declined last week to 29, and were equal to an annual rate of 4·3 per 1000, the rate from the same diseases being 3·1 in London and 3·8 in Edinburgh. The deaths referred to fever, which had been 7 and 5 in the preceding two weeks, rose last week to 8, and the fatal cases of diphtheria also showed an increase; whereas the deaths from scarlet fever and measles had declined. The deaths both of infants and of elderly persons showed a decline from the numbers in recent weeks. Four inquest cases, but no deaths from violence, were registered within the city; and 52, or more than a quarter, of the deaths occurred in public institutions. The causes of 34, or nearly 16 per cent., of the deaths in the city were not registered.

THE DEATH-RATE AS A TEST OF HEALTH CONDITION IN TASMANIA.

The value of the death-rate as a test of health condition has recently been under discussion at the antipodes. In April last Mr. R. M. Johnston, the Registrar-General of Tasmania, read a paper before the Royal Society of that colony on this subject, and pointed out how the general death-rate is often a very faulty index of the comparative health or sanitary condition of different populations. It is very satisfactory to find that the effect of age-distribution upon the death-rate of a population is now attracting a fairer share of the attention it deserves at the hands of vital statisticians. Mr. Johnston calls attention to the fact that, while the mean death-rate of children under five years of age (we presume in the Australian colonies) is 42·15 per 1000, and among persons aged upwards of sixty years is 61·53, it does not exceed 7·73 among persons aged between five and sixty years. It is obvious that the death-rate of a population, quite apart from sanitary condition, must depend to a considerable extent upon the distribution between these three groups of ages. There is usually a kind of compensation between the numbers of children under five years and of elderly persons; when the proportion of children is large, that of elderly persons is small, and the reverse. The populations of new countries, however, may be expected to show very abnormal proportions. In noticing the official Tasmanian mortality statistics for 1886 a few months since, we called attention to the comparatively high recorded death-rates in the towns of Hobart and Launceston. Mr. Johnston, in the paper under notice, calls especially attention to the very exceptional age-distribution of the population of Hobart, and points out that more than 43 per cent. of the deaths in that town in 1885 and 1886 were of persons aged upwards of sixty years. The proportion of deaths at these ages in the twenty-eight largest English towns in 1886 was less than 22 per cent., and in other Australasian towns it ranged from less than 9 per cent. in Brisbane to 19 per cent. in Adelaide. It would be interesting to have some explanation of this abnormal proportion of elderly persons in the Hobart population, but it is evident that this fact goes far to destroy, for comparative purposes, the value of the death-rate at all ages in this town as a measure of its health condition. It is beyond question that the abnormal age-distribution of the Hobart population must be taken into account before its death-rate can be compared with that of other towns. Mr. Johnston, in his paper referred to above, suggests as a health-standard of populations the death-rate among all persons aged under sixty years as preferable to the death-rate at all ages, because the disturbing element of the varying proportion of elderly persons would thus be eliminated. It must be remembered, however, that the proportion of children under five years varies as widely in different populations as does that of elderly persons, and is fully as powerful an element of disturbance. Moreover, as has been pointed out, inasmuch as there is generally a tendency to compensation between these two sources of disturbance, Mr. Johnston's method has the serious defect of making his health standard practically dependent upon the mortality of children, or rather upon their proportion to the population under sixty years of age. On this ground this proposed new health-standard would, generally speaking, be less trustworthy for comparative purposes than the usual standard—the death-rate at all ages. There are, indeed, only two satisfactory methods of meeting such exceptional cases as that of Hobart Town for the purposes of comparative vital statistics. Calculated death-rates at groups of ages are always strictly comparable with the death-rates at the same groups of ages in other populations. If, however, it be desired to calculate a general death-rate at all ages which may be trustworthy for comparison with the death-rate at all ages in other populations, it is absolutely necessary to take full account of the whole age-distribution of the population, and of the difference between such age-distribution and that of a standard or life table population, as regards its effect upon the general death-rate.

TRAPP PHARMACEUTICAL SCHOLARSHIP.—The St. Petersburg Pharmaceutical Society has founded a scholarship for pharmaceutical students in honour of Dr. Julius Trapp, Emeritus Professor of Pharmacy in the Military Medical Academy, whose jubilee year this is.

Correspondence.

"Audi alteram partem."

DR. POTTER OF SAN FRANCISCO AND HOMŒOPATHY.

To the Editors of THE LANCET.

SIRS,—By suggestion of Dr. T. Lauder Brunton, I beg to call attention to some erroneous statements concerning me in the *Homœopathic Review* of June 1st, 1887, under the title "Dr. Lauder Brunton's Explanation." The writer says: "Dr. Potter is a graduate of the Homœopathic Medical College of Missouri, of 1878, and was, when we met him eight years ago, a member of the American Institute of Homœopathy, and practising homœopathically at Milwaukee. Three years later he resided at Philadelphia, where he worked as a medical publisher's hack, and then entered the United States army as an assistant surgeon." The errors to which I allude are some of omission and others of commission, which I desire to correct through the medium of your valuable journal, as they place me in a false position with my relatives and friends in England. I never practised "homœopathically at Milwaukee" or elsewhere. True, I first graduated at a homœopathic school, and was for one year a member of the American Institute of Homœopathy, but I was never in practice as a homœopath. My residence in Philadelphia "three years later" was not "as a medical publisher's hack," but was in pursuance of my studies at a regular medical school, the Jefferson Medical College, from which I graduated in 1882. The work which Dr. Pope so unkindly characterises was all done after that date while in the United States army, and comprised the writing of two volumes in the now well-known series of "Quiz-Compends," the revision of my prize essay, and in writing my recently published "Handbook of Materia Medica, Pharmacy, and Therapeutics."

My object in publishing the "Index of Comparative Therapeutics," to which so much reference has been made by Dr. Brunton's critics, is set forth in the following extract from a slip which I have used for years to advertise it by. In this I say that the book "vindicates regular medicine from the stigma of 'pathy,' showing that the term 'allopathy' is a misnomer, and that practitioners of the old school are trained in the best features of all systems; compares regular medicine and homœopathy side by side, showing that modern homœopaths are only so in name." *En passant*, let me say to Dr. Pope that this book was no "publisher's hack" work, but that I paid the entire cost of type-setting, electrotyping, printing, and binding out of my own pocket. Of the said book THE LANCET said, on August 19th, 1882: "The author's selections have been made with care and discretion. The work has been well and carefully done." And the leading regular American medical journal, the *New York Medical Record*, said: "It is a work of considerable interest. It illustrates a conformity of practice between the two schools which is not generally suspected." While my predecessor in the chair I occupy at present said, in the *Pacific Medical and Surgical Journal*, that thereby "Dr. Potter has done good service to medical science."

I abandoned homœopathy before entering into practice, because my observation of the reception by homœopaths of Dr. C. Wesselhœft's reproving of Carbo-Vegetabilis, and Dr. Sherman's work in the "Milwaukee Test" of 1879, proved to me that no crucial drug experimentation, conducted under scientific safeguards, could meet with any degree of appreciation from the majority of that sect. I was further impressed by finding that ninety-nine out of every hundred so-called homœopathic physicians were in the habit of resorting to regular therapeutics whenever there was any active therapy to be done. About the time when I had decided to abandon the Hahnemaniac philosophy, I had the pleasure of entering into some literary correspondence with Dr. Roberts Bartholow, and, yielding to his urgent advice, I entered Jefferson Medical College, having first complied with the regulations of the British Medical Council in respect to the examination in general education. Since my graduation from that school I have had no association or connexion whatever with homœopathy.

In the introduction to my "Handbook of Materia Medica

&c." I use the following language, which clearly expresses my views regarding the system under consideration:—"The illustrious Albrecht von Haller, the father of physiology and the author of the doctrine of Irritability, was the real originator of modern physiological therapeutics. In the preface to his Swiss Pharmacopœia (*circa* A.D. 1755) occur the following remarkable directions: 'In the first place, the remedy is to be tried on the healthy body, without any foreign substance mixed with it; having been examined as to its odour and taste, a small dose is to be taken, and the attention directed to all effects which thereupon occur; such as upon the pulse, the temperature, the respiration, the excretions. Having thereby adduced their obvious phenomena in health, you may pass on to experiment upon the sick body.' Forty or more years after these rules were laid down *ex cathedrâ* by Haller, the central idea contained in them was incorporated, as one of the main pillars, in a medical edifice then being erected in Germany. In the course of construction this pillar became so buried beneath a superstructure of palpable absurdities, that the medical profession, in its anxiety to steer clear of the whole mass, almost forgot the humble corner-stone, appropriated from the teachings of one of its own greatest chieftains. While, however, the masses of the profession, blinded by its prejudices, turned away from everything which savoured of drug experimentation, a few in every country were quietly working on the lines of the Hallerian dictum; and as a result of their labours the present generation has seen the development of an idea announced 130 years ago, but now inspiring the minds of teachers and students all over the civilised world."

Were this a personal matter only, I would not venture to trouble you or to trespass so far on your space. But as my book and my name have been brought into controversy in connexion with Dr. Brunton's great work, and as I now hold an important position in one of the leading medical colleges of this country, I trust that you will permit a full reply to erroneous statements and still more erroneous insinuations. I am, Sirs, yours very respectfully,

SAMUEL O. L. POTTER, A.M., M.D.,
San Francisco. Professor of Theory and Practice.

"MEDICAL MEN AND POLITICS."

To the Editors of THE LANCET.

SIRS,—Are there not two sides to the pertinent question contained in your leader in THE LANCET of Jan. 14th under the above heading? If a medical man "is a policeman in the matter of health—physical, mental, and moral," it does appear to me that he ought never to be "off duty and out of uniform" in his own district, and that it is a part of that duty to assist in the education of all those who ask his opinion or seek his advice in the first principles of public health, and such first principles are intimately wrapped up in the progress of the political events of our every-day life. He cannot, in my opinion, do his duty if he ignores them. They are more or less connected with every movement now taking place upon the political chessboard in all questions connected with home government. It is utterly impossible for a medical man to act up to the principles you inculcate in matters of health, *mental*, *physical*, and *moral*, without becoming a politician. I think, therefore, that if I follow your advice I am on the horns of a dilemma. The practitioners of medicine may have manifold opportunities of exercising "undue influence in politics," as you state, but I fear that when so unduly exercised it is not for the benefit of science or of public health, in the sense in which you have put it. It is an open secret that both political parties in the State treat the medical profession with a certain amount of contempt which is anything but complimentary to our leaders, either as individuals or as a comprehensive body of gentlemen. You say, "nothing but the surpassingly good and strong sense of the community could resist the influence of the medical profession if it seriously laid itself out to direct or control public policy." I do not quite understand this remark in context with that which precedes it in your article. Would it be possible for the medical profession to exert any influence such as you speak of except it be in accord with "strong good sense"? I think not, and fortunately it is so, otherwise we should have the corporations using an influence in a more demonstrative manner than they do now, which would be highly detrimental to both public and professional interests, and simply for the protection of their own present and personal ends. Unfortunately, on the other side, the whole general body of the profession is a collection of fortuitous atoms without anything to bind them together, but much to disintegrate and weaken them. There is scarcely a large town in the kingdom in which a medical man in general practice does not hold a commanding position in matters connected with local self-government, but he does not owe his position to the active support of his professional brethren. As a rule, they are generally his antagonists, *sub rosa*, no matter to which political party he belongs, and on almost all occasions they vote against him at local elections. The Idola of Bacon, at any rate, do not come into play in our profession in political contests outside our professional ranks. There is no personal adhesion to a medical man on the part of his professional brethren; he has to fight against the dead weight of their silence, or their very faint praise on his behalf; not because of his political views upon local matters, but because the support afforded by the public gives him a pre-eminence which is distasteful to his professional neighbours; for, as a rule, he is young, and an ambitious man. As a consequence of this want of cohesion, the profession, as a whole, is treated contemptuously by the political world, and their interests are not considered as of any moment whatever. It was not by such conduct that Mr. Wakley won his way to fame and assisted to enrich the medical profession without degrading it. He had to fight against the dead weight and even active opposition on the part of the *soi-disant* professional leaders of his day. They acted towards Mr. Wakley much as the general body of medical men act towards those who are trying to benefit the public and the profession by political aspirations in present times.

You say it would be "a salutary precaution" for an aspirant to political life to lay aside his professional character whenever he takes part in politics. You mean to say that it is disadvantageous to his pecuniary interests to be associated with such proceedings. No doubt it is so. In a worldly point of view, unless he makes the profession of politics his own profession, he will not gain in pecuniary ways by dabbling in the political world. But I have yet to learn that it is a man's duty to always consider his pecuniary interest. It is such a consideration which lands the profession in its present position, and leads it to be looked at contemptuously by both political parties in the State. The so-called leaders in our ranks are jealous of each other, and yet are afraid to offend the powers that be, the source of honour and title, fearful that any personal act or deed of theirs may prevent them from obtaining the baronetcy, which appears to be the height of their ambition, and the *summum bonum* of their aspirations—afraid to say that their souls are their own in matters political, in the face of the Privy Council or of the acting Government of the day. We have the indignity of witnessing a tacit acknowledgment on the part of the heads of the medical profession to the assumption that they are inferior in caste to the right honourables who form the Cabinets of either political party. We have the spectacle of men being deprived of all rank or position in our army, without a single word being raised against such an insult from those who have the private ears of the powers that be, and who take the opportunity of whispering into those ears words which indicate disapproval of the acts of the rank and file, who dare to think differently. I do not think that the proper way to obtain "public esteem" is to consider in every possible direction how to avoid giving offence to our patients by ignoring political questions. I quite agree that it would be in every way wrong to intrude such subjects into the sick room, or talk about them when considering the treatment which a patient may require; but to urge medical men to let politics alone, and to act as if above such mundane consideration, is not the way to win a position. It was not the way which my good old friend Mr. T. Wakley followed, and from whose devotion and self-abnegation the profession owe so much in the improved position which we have in connexion with public work, and the public esteem in which it is held in consequence of his political action.

I beg to be allowed to put my protest against the sweeping suggestions contained in your leader, and at the same time to subscribe myself,

Sirs, your obedient servant,

Croydon, Jan. 14th, 1888. ALFRED CARPENTER.

SYPHILIS IN NEGROES.

To the Editors of THE LANCET.

SIRS,—I have followed with not a little interest Dr. Coats in his article on the Pathology of Infectious and Infective Diseases, and can, after an extensive experience of the medical treatment of black races, confirm what he states regarding small-pox, tubercle, and leprosy amongst the people of colour where he refers to them.

In the last epidemic of small-pox in Kimberley, South Africa, a year or two ago, towards the true elucidation of which THE LANCET took such energetic action, the fact of the remarkable susceptibility of the native black races to this scourge came out with overpowering force. In this epidemic a much higher mortality than 15 per cent. was noted; 40 per cent. was much nearer the truth. In support of the principles advocated by Dr. Coats, vaccination in the case of black races might also rightly be put forward as an equally remarkable proof. In the epidemic I refer to, the Local Board of Health enforced vaccination, and with a highly successful result. In about six weeks time I vaccinated 10,000 of the native tribes engaged in labour at the diamond mines, and with scarcely an exception successfully. As a natural result the epidemic received an abrupt stop, and in a week or two was practically at an end. Arm-to-arm vaccination was adopted, and the result of the subsequent inspection of the vaccination by medical men appointed for the purpose was that few, if any, instances of an unsuccessful vaccination were discovered. Nor was any untoward result recorded, no sore arm, and not a single death. Nor was it ever observed that any Kafir with a recent vaccination mark was admitted for small-pox subsequently into hospital. The tribes employed in the mining industry are representatives of every kind of native races in South Africa, as well as half-breeds. As regards tubercle in these peoples, although my experience has not been quite so extensive, I can yet testify to the rapid course it pursues when it does attack a coloured subject, more especially the slightly made Hottentot, Bushman, or Koranner. Typhoid and pneumonia are especially fatal amongst all. Phthisis follows the type of galloping consumption, lasting generally from two to four months.

In the Leper Hospital at Robbin Island, near Capetown, leprosy is found most frequently amongst Bushmen and Hottentots, but I have seen it amongst half-breeds and Kafirs. It is especially frequent amongst natives along the coast line, or amongst those who have resided there at one time or another in their lives. Granted that these diseases are especially prone to attack negro races, it might naturally have been assumed that syphilis would prove fatally infectious amongst them. And so, in fact, it is. Such is my own experience and that of every practitioner I have met with in South Africa. It is the ever-constant scourge of native races in South Africa, and of such a serious nature that the Government of Cape Colony have often caused investigations with the view of stamping it out. I do not fear to assert that out of any native location in Cape Colony dozens of cases of syphilis could be mustered in a very short time. I have read reports from hospital surgeons in Cape Colony complaining of the number of cases of syphilis amongst the blacks, and even of fatal results accruing from the disease. My own experience of its presence amongst every variety of native races has been abundant. Amongst the Boers in Cape Colony a dangerous amount of syphilis has been introduced through native nurses. It may interest your readers to learn how this is often effected. The nurse given the Dutchman's child to tend gets a piece of bread, and in order to keep the baby quiet softens first a part of the bread in her own mouth and then thrusts it into the child's. The child gets inoculated in the mouth, from which the mother gets infected, then the father, and so on. In this way I have seen whole families (eight to ten individuals as the case may be) of Dutchmen infected.

As regards the evidences of syphilis in native races, these are precisely typical of the disease as we know it generally. I should be inclined to say that, if anything, it is more virulent in blacks. I have seen severe cases of rupia phagedæna and all the other varieties of rashes just as in Europeans. Amongst American negroes, large numbers of whom are found all over South Africa, the disease is quite as prevalent. Hereditary syphilis is, as might be expected, very prevalent amongst native children. Generally, therefore, at least in South Africa, it would seem that native races possess an almost absolute susceptibility to syphilis, and not, as Dr. Coats says, an almost absolute immunity.

As regards the question of the immunity of the negroes of Madagascar, I am informed from a reliable source that syphilis is quite as rampant there amongst every description of coloured people, from coast to capital, as in Cape Colony. The missionary from whom I had this information has had to warn off negro nurses out of his own family on account of syphilitic affections amongst them, and has had often to exhort others (negroes) to seek hospital relief who were likewise affected. The same authority assures me that every description of native is liable to it, and so common is the disease there that natives talk of it as being an every-day occurrence. Hereditary syphilis and syphilitic abortion are common. Dr. J. Tregellis Fox, who signs the Medical Mission (Antananarivo, Madagascar) Report, 1885, could, I think, bear me out in what I say here, judging from the nature of the remarks there made. In addition, I have to say that I have in Cape Colony treated syphilis in negroes originally from Madagascar.

I am, Sirs, yours sincerely,

Newcastle-on-Tyne, Jan. 21st, 1888. WM. ROBERTSON.

THE RECENT DISCUSSION AT THE PATHOLOGICAL SOCIETY.

To the Editors of THE LANCET.

SIRS,—Kindly allow me to remove a wrong impression which must have been produced in the minds of some of those present at the last meeting of the Pathological Society by some expressions used by Dr. Crookshank. Dr. Crookshank expressed great indignation at my having exhibited to that meeting, "without his permission," "his" calf—that is, the calf which he had exhibited at the extraordinary meeting on Dec. 15th as being affected with alleged cow-pox. When I exhibited this same calf on Jan. 17th it showed the true cow-pox, due to vaccination from a calf at the Animal Vaccine Station (Lamb's-conduit-street) on Jan. 12th.

Now, the fact of the matter is that this calf was not Dr. Crookshank's property. It belonged to Professor Brown, and had been sent with other similar calves by Professor Brown to the Animal Vaccine Station, in order to be tested for their susceptibility to cow-pox. Professor Brown had said to Mr. Shirley Murphy and to myself that, short of killing, we might do with the calves as we pleased.

I am, Sirs, your obedient servant,

Jan. 21st, 1888. E. KLEIN.

P.S.—I ought to mention that the above experiment of vaccination of the calf exhibited at the Pathological Society was performed by Dr. Cory in the presence of Professor Brown and Dr. Crookshank, and that Dr. Crookshank had, with me, inspected the calf on three subsequent occasions.

"ANTISEPSIS IN PHTHISIS."

To the Editors of THE LANCET.

SIRS,—In your editorial article of the 14th inst. on the above subject you encourage the view that it is one deserving of our serious consideration. Soon after the publication of the last edition of the British Pharmacopœia I drew your attention to the class of preparations introduced for the first time under the title of "Vapours" ("Vapores"), and pointed out the singular ignorance that was displayed in the composition and directions for administration of the different agents employed. Now, as the question of the value of antisepsis in phthisis depends more on the mode of treatment than upon anything else, I venture to draw your attention to the fact that among the "vapores" of the British Pharmacopœia not one could possibly be of any use in phthisis or any other malady. If, in your opinion, there is really some hope of practical benefit arising from the treatment referred to, you will undoubtedly admit the necessity of looking carefully to the methods we employ before beginning to record results. It must be clear that if the principle of antisepsis is to be carried out in phthisis, the vapour inhaled must be distinctly of antiseptic energy and character. A little reflection will suggest to most practitioners how this can be secured; but to save trouble will you allow me to point out that, whether they use carbolic acid, oil of pine, tincture of benzoin, or any other agent, it is essential that the water with which the agent is

mixed should be continuously boiled so that evaporation of the agent should be effected. It is unnecessary to say that unless this be done the therapeutic effects obtained by following the directions of the British Pharmacopœia could only be compared to some of the homœopathic doses of infinitesimal degree of dilution of which we have been hearing something of late.

I am, Sirs, your obedient servant,

Savile-row, Jan. 23rd, 1888. R. J. LEE.

THE HYDROPHOBIC VIRUS DESTROYER.

To the Editors of THE LANCET.

SIRS,—I have refrained from replying to Dr. Bell Taylor's criticism of the above in your issue of Jan. 7th, in order that I might know exactly the size and weight of the points when finished. Dr. Taylor refers to two-grain doses and to lozenges, but in my letter in your issue of Dec. 24th nothing is said about grains or lozenges, but only that the points will be composed of two parts, &c. As regards risk of poisoning, I now find that even were all the available portion of a point swallowed, it would only contain one grain of corrosive sublimate, and, according to Swaine Taylor, three grains is the smallest known fatal dose. The nauseous taste would greatly prevent risk, even with gross carelessness, and I need not remind Dr. Taylor that policemen also carry in their pockets a far more virulent poison in the form of matches. With regard to Dr. Taylor's suggestion to use pencils of permanganate of potash, I fear the difficulty of getting such made would be great, and when made they would soon become useless from contact with organic matter in the air and exhalations from the skin; in fact, the permanganates are, I have found, more easily rendered inhert and destroyed in this way than any other disinfectant. My chief reasons for choosing corrosive sublimate were its great strength and non-liability to change under any ordinary circumstances or climate. Dr. Taylor's letter confirms the value of having such a remedy at hand, as does also Dr. Wilkinson's in your issue of Jan. 14th. I am, Sirs, yours faithfully,

Morecambe, Jan. 24th, 1888. THOS. MACCALL, M.D. &c.

REMOVAL OF FOREIGN BODIES FROM THE AIR-PASSAGES

To the Editors of THE LANCET.

SIRS,—Would you allow me to correct a mistake which has arisen in connexion with my suggestion that the margins of the tracheal wound should be sutured to the skin during operations for the removal of foreign bodies from the air-passages? This attachment is only a temporary one, and the sutures should be divided so soon as the foreign body is removed; they cannot therefore exercise much influence on the healing of the wound. The suggestion in your remarks on this subject, that the tracheal wound should be closed by sutures after the operation, is a valuable one, if it be found on experience that they assist in the healing of the wound.—I am, Sirs, yours obediently,

Stratford-place, Jan. 25th, 1888. THOMAS SMITH.

MR. BOWLBY'S "SURGICAL PATHOLOGY."

To the Editors of THE LANCET.

SIRS,—While thanking you for the notice of my book on "Surgical Pathology" in your issue of last week, I trust you will allow me to correct a misstatement, for, if true, the paragraph to which I refer would imply considerable carelessness on my part.

Writing with reference to "Surgical Kidney," your reviewer says: "Nor can we read any reference to reflex hyperæmia or irritation as an element in the causation thereof." May I draw your attention to the fact that on the first page of the chapter on "Surgical Kidney" the first cause of the affection is stated as follows:—"The diseases of the urethra and bladder which cause surgical kidney act in more ways than one. First, it may be said that any persistent irritation of these parts is liable to cause reflexly chronic hyperæmia of the kidneys, &c.' It is a little difficult to understand how anyone who has read the chapter could overlook so plain a statement.—I am, Sirs, yours truly,

Queen Anne-street, Jan. 23rd, 1888. ANTHONY A. BOWLBY.

VOLUNTEER MEDICAL ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—Will you be good enough to allow us to draw the attention of Volunteer surgeons to the fact that the inspection of the class now being held under the auspices of the Volunteer Ambulance Department will take place on Saturday, Feb. 18th, at 5 P.M. at the Guildhall, when the Lord Mayor and Sheriffs will attend in state. The members of the Association and their friends will dine together at the Holborn Restaurant, at 7 P.M., the same evening after the inspection. The Council will be glad to see any army or Volunteer medical officers either at the Guildhall or at the subsequent mess meeting, and such gentlemen are invited to communicate with us at once.

We are, Sirs, yours faithfully,
JAMES CANTLIE,
ALFRED LINGARD, } Hon. Secs.

King William Street, Strand, W.C., Jan. 23rd.

MANCHESTER.

(*From our own Correspondent.*)

SMALL-POX.

ONE or two cases of small-pox have recently been met with both in Manchester and in the adjoining borough of Salford; but in some of the surrounding towns, especially Stalybridge, several cases have occurred, and are attracting some attention. Several of these have been distinctly traced to infection from Sheffield, and at the last meeting of the Association of Medical Officers of Health this subject came under consideration, and a resolution was passed that all persons having occasion to visit Sheffield at present should take the precaution of being revaccinated. With our efficient system of notification of infectious disease, it is to be hoped we shall escape any serious outbreak of the disease. The Salford Town Council have at last decided upon a site for their new hospital for infectious diseases in Eccles New-road, though this was not accomplished without considerable opposition both within and outside the Council. It is not to be supposed that the Health Committee have come to this decision without full and mature consideration, though to an outsider it does seem that some other situation might have been found.

MEDICAL SOCIETY.

The annual meeting of the Medical Society showed a very satisfactory state of things, notwithstanding the competition and vigour of the other and younger societies. The number of members is 237, against 249 last year, and there is a satisfactory balance of income over expenditure. The new catalogue of the library, which has been for some years in hand, is promised shortly, and not before it is required. The library now numbers 28,700 volumes, exclusive of unbound pamphlets &c. Dr Dreschfeld succeeds Mr. Hardie as president of the Society.

VACANCIES.

In addition to the vacancy in the chair of Obstetrics at the College, the chair of Surgery will shortly have to be filled owing to the retirement of Mr. Lund, whose health forbids him longer taking an active part in teaching work. Few of our professors have done more for the students of the Manchester School of Medicine in the way of instruction than has Mr. Lund, both in the wards of the infirmary, in the old School of Medicine in Faulkner-street, and up to the present time within the College walls. Another favourite member of the teaching staff is about to loosen his connexion with the students. Dr. Morgan, it is understood, will before long resign his post as physician to the infirmary, by which a vacancy will be caused for an assistant physician. There will be no lack of candidates for this appointment, but rather an *embarras de richesses*.

DEATH OF DR. SAMELSON.

By the death of this gentleman a well-known personality in Manchester will be missed. For some two years he has been in ill-health, and at times suffered much. A political exile from his native country, Germany, he had for many years made a home here, and devoted special attention to ophthalmic work, being for some time on the staff of the

eye hospital; but it was in connexion with work outside, strictly professional occupation, that he was best known. For years he took a deep and active interest in the Sanitary Association, and he was one of the leading spirits in the establishment of day nurseries here. A somewhat dogmatic and hasty temperament at times wrought friction with his co-workers in these and other philanthropic agencies; but he was a man of liberal views, wide culture, and sterling worth. He died at Cannes on the 12th inst.

WATER SUPPLY.

Although in mid-winter we are threatened with a water famine, not for more than thirty years has the rainfall been so low as during 1887, and as a consequence the supply of water in our reservoirs is at a dangerously low ebb. In 1879 the store became small, but not then did it run down so low as at present, and to-day we are using two million gallons more daily than at that time. Urgent requests have been issued to economise and avoid all waste of the precious fluid.

Manchester, Jan. 24th.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

PROVIDENT DISPENSARIES.

THERE seems to be a revival of these so-called "Provident" Medical Associations in the north; whether they are destined to survive may be a question. At all events, the term "provident" does not apply to the medical men who take these offices, because they will hardly provide bread-and-butter for them. You, in your last week's "Annotations," alluded to the paltry provision of threepence a week for a family's medical attendance, but of this some 60 per cent. is set apart for the expenses of collecting &c. So that most of the threepence will be swallowed up by "management," leaving less than three-halfpence for the surgeon. How any medical man can lend himself to such a scheme it is not easy to see. The annual meeting of the Alnwick Provident Dispensary has been held; it seems that a sum of £134 had been divided amongst three medical men, and it was proposed to extend the field of operations by annexing some outlying villages. It is not shown in the newspaper account what amount of work was performed by the medical men for the sum each received, but the remuneration does not seem large, seeing it must include journeys in some of the mountainous districts of Northumberland.

THE EYE AND QUACKERY.

Mr. C. S. Jeaffreson, in his lecture last week, warned workmen of the great risks they ran of falling into the hands of quacks and impostors, who were too common in districts frequented by large numbers of working men. He said: "Some of them carried on their operations in a small way; others attempted things on a larger scale, and advertised themselves as connected with hospitals which had no existence, and frequently mendaciously stated that they had been pupils of men of eminence who were still living. England was about the only country where the law did not interfere to protect the ignorant from the ravages of these social sharks. Medical men paid large sums for their education, and considerable fees for registering their degrees; yet they were not protected from that kind of competition. Let a person add a little fat to his butter, or put a little water to his milk, or add a little starch to his cocoa, and he immediately rendered himself liable to penal consequences. Although these adulterations were dishonest, they were perfectly innocuous. If he, by lying misrepresentations, induced them to ruin their constitution, or by ignorant manipulation destroyed one of their vital organs, he escaped unscathed."

AMBULANCE WORK IN NEWCASTLE.

A town's meeting, presided over by the Mayor, was held last week to promote the work of the St. John Ambulance Association as a centre in Newcastle. The speaking was good and to the point, but the attendance was meagre. Dr. Clark Newton gave some very good demonstrations of "first aid." It might, however, have afforded some of the audience a better idea of the real work of restoring the drowned if the movements in the Marshall Hall method had been performed on the floor instead of (as was done) on a table. Speaking of ambulance work, I notice that Messrs. Atkinson and Philipson of this city have obtained first prize at our Royal Jubilee Exhibition for their Registered Invalid Stretcher, which by the action of a screw will also make a chair.

Newcastle-on-Tyne, Jan. 25th.

EDINBURGH.

(From our own Correspondent.)

THE MEDICO-CHIRURGICAL SOCIETY.

AT the last ordinary meeting of this Society a number of interesting cases and specimens were exhibited: among them a case of optic atrophy preceding locomotor ataxia, by Dr. Byrom Bramwell, who also introduced a series of photographs from a case of cancer of the cerebellum; and a frozen transverse section of the head, showing the pharyngeal and auditory relations of the Eustachian tube, by Dr. Symington. A large share of the time of the meeting was accorded to the reading and discussion of Dr. George Hunter's paper on "The Place of Specialism in General Practice, with reference to Diseases of the Eye, Ear, Throat, and Nasal Cavities," in which the author showed that the position of a hard-working country practitioner is by no means inconsistent with a sound practical knowledge of these specialties to the full extent described in the ordinary text-books on each subject. The paper detailed the measures adopted by the author in a number of typical cases of each sort, and recorded the favourable outcome of the special procedure employed in their treatment.

A MONSTER SYMPOSIUM.

The students of the University held an evening festival last Friday in honour of Lord Lothian, the recently elected Lord Rector of the University. The spacious Drill-hall in Forrest-road was arranged as a vast supper-room, with long tables and benches. Over 2000 students were present at one or other part of the proceedings, which lasted nearly four hours. Lord Lothian and Sir William Muir, the Principal, made speeches appropriate to so convivial an occasion; and throughout the evening a varied entertainment of music, songs, and recitations was carried out by a committee of the students themselves. In all respects the meeting was a success, and the students' representative council deserve much credit for the admirable way in which so great an undertaking was planned, and for the energy and *éclat* with which their programme was carried out.

CLINICAL TEACHING IN EDINBURGH.

Further consultations as to the provision of increased opportunities for clinical teaching are now in progress, and the leading article on the subject in last week's LANCET is felt to have been remarkably well timed as regards its appearance, whatever view may be taken in regard to the propositions it brings forward. Most of these are, however, of so unexceptionable a nature, and so clearly aimed at the satisfaction of a long-felt want in our teaching system, that they at once commend themselves to a large majority of those who are anxious to see improvements carried out in the curriculum. It is, of course, impossible to say how far the article may harmonise with the ideas of those actively engaged in effecting the alterations referred to, but it is extremely probable that they will closely follow the line thus laid down in discussing what changes will be most productive of practical benefit to the school.

Edinburgh, Jan. 24th.

ABERDEEN.

(From our own Correspondent.)

THE UNIVERSITY.

AT a recent meeting of the Senatus of Aberdeen University, it was resolved to confer the honorary degree of LL.D. on the Right Hon. George J. Goschen, who was recently elected Lord Rector of the University. Mr. Goschen is to deliver his rectorial address on the 31st inst., and in the evening he will be entertained at dinner by the Senatus in the Imperial Hotel. During his visit in Aberdeen he is to

be the guest of Principal Geddes. The arrangements for the rectorial address have on this occasion been left entirely to the students themselves, and it is thus hoped the audience will be spared such a scene as took place when Professor Bain, Mr. Goschen's predecessor, attempted to deliver his address.

THE PROPOSED RECREATION GROUNDS.

The Senatus of the University have appointed a committee of their number to confer with the general body of the students on the subject of the proposed recreation grounds in connexion with the University.

THE HEALTH OF THE CITY.

The report of the medical officer of health shows that during the month of December there were 220 deaths, equal to the annual rate of 22·08 per 1000. There were 62 cases of scarlet fever, 114 of whooping-cough, 6 of typhoid fever, 4 of typhus fever, 4 of measles, and 1 of small-pox. Eight cases of whooping-cough proved fatal; and scarlet fever, typhus fever, and measles had each one victim. In moving the adoption of the report at the meeting of the Town Council, Dr. Moir, convener of the Public Health Committee, pointed out that the death-rate for 1887 was higher than for 1886, chiefly because of a very serious epidemic of measles, which, during 1887, was the cause of no fewer than 281 deaths, while whooping-cough terminated fatally in 90 cases. Referring to the two cases of death from small-pox, he said, "in the case of one, the medical student, no vaccination had been done, and in the second case it was doubtful whether vaccination had been correctly or well done. These facts show that however much people might rail against vaccination, it was undoubtedly a great preventive against death—at any rate, it modified the seriousness of this the most loathsome of all diseases. He took the opportunity of saying this because there was a feeling among people just now that they ought not to be obliged to vaccinate their children. Every person who refused to have his children vaccinated was doing them an injury." Recently two men were prosecuted in Aberdeen and fined for refusing to have their children vaccinated.

THE SANITARY INSPECTOR'S ANNUAL REPORT.

Mr. Cameron's annual report states that during the year 3539 nuisances were registered and 3180 abated; 6421 houses, premises, &c., were inspected; 4206 orders were issued for sanitary amendments of houses and premises, and 378 notices were sent to the cleansing inspector as to ash-pits, back areas, &c.; 2380 notices were issued to teachers regarding infectious diseases; 517 patients suffering from such diseases were removed to the hospital, and 4380 were supervised at home; 3730 houses, ships, &c., were disinfected after infectious diseases, and 642 sets of infected bedding and clothing were disinfected and washed; 1236 choked drains, defective water-closets, &c., were remedied, and 18 new waterclosets and sanitary conveniences were provided by the proprietors; 51 underground dwellings and uninhabitable or over-crowded houses were dealt with; 10 lodging-houses were registered, and 475 visits were made to lodging-houses during the day and 226 during the night; 10,421 miscellaneous visits were paid in regard to infectious diseases, while in 49 cases legal proceedings were instituted; 80 articles were taken for analysis, and the amount of unwholesome food seized weighed more than 32 tons; and 1826 inspections were made of cowsheds, dairies, and milkshops. Such a record of work done during the past year is more than ample proof of the thorough and vigorous manner in which the work of the department under Mr. Cameron is conducted.

THE POLICE SURGEONSHIP.

A joint meeting of the Watching and Public Health Committees of the Aberdeen Town Council was held to-day, to consider whether the office of police surgeon should be disjoined from that of medical officer of health. It was agreed by a majority that the offices should be conjoined. A letter was read from Lord Provost Henderson recommending Prof. M. Hay for the office of senior medical officer of health, and the appointment of a "junior doctor," to reside in and have charge of the City Hospital, under the senior officer.

Aberdeen, Jan. 24th.

THE *Centralblatt für Kinderheilkunde*, which was founded last year, has unfortunately ceased to exist owing to the insufficient number of subscribers.

DUBLIN.

(From our own Correspondent.)

INSPECTOR OF ANATOMY FOR DUBLIN AND PART OF THE PROVINCES.

THE Inspectorship of Anatomy, rendered vacant by the death of Dr. Brady, J.P., has been conferred on Dr. Martin, secretary to the Dublin Hospitals Board and physician to Jervis-street Hospital. The emoluments attached to the office are £150 a year, which sum includes travelling expenses. I am informed that there was a large number of applicants for the post.

PRESENTATION TO DR. BANKS.

The annual general meeting of the Dublin Branch of the British Medical Association was held on Wednesday, the 25th inst., at the College of Physicians. The President, Dr. Mapother, delivered an address on "Hospitals and Hospital Administration," and the officers and council were elected for the ensuing year. At the termination of the business, the portrait of Dr. Banks, President of the Association, was presented to the President and Fellows of the College, on behalf of the subscribers to the Reception Fund of the late annual meeting of the Association in Dublin. The portrait, which is in oils by a lady artist (Miss Purser), represents Dr. Banks sitting in his academic robes, and is three-quarter size, was unveiled by Dr. Mapother, who in a few well-chosen words tendered it to the College; and Dr. Little, President of the College, in an admirable speech, replied accepting its custody. Dr. Banks, who was much affected, returned thanks, and said his feeble words could not convey the feelings which filled his heart. That his portrait should find a resting-place in a hall which had likenesses of their most illustrious physicians was an honour for which he felt very grateful, and the occasion should be stored amongst his most cherished memories. Dr. William Moore, physician to Her Majesty in Ireland, has been chosen President-elect.

HYDROPHOBIA.

Rabies is very prevalent in various parts of Ireland, especially about Londonderry, and the Enniskillin guardians have recently requested the Local Government Board to order an inquiry into the McGovern treatment of hydrophobia as carried out at Dowra and Glen, co. Cavan. The Board have consented to hold an inquiry if the McGoverns will give details of the cases of hydrophobia they have successfully cured and the recipe of the cure. A reverend gentleman, who is very enthusiastic with regard to the method of treatment referred to, has written to a Dublin newspaper giving a description of some thirty people who suffered from hydrophobia of an acute character being successfully treated by McGovern. The cause of the hydrophobia (?) is stated to have been due to the parties having partaken of the flesh of a large pig bitten by a rabid dog!

HEALTH OF DUBLIN FOR DECEMBER QUARTER.

The births registered in the Dublin Registration District amounted to 2303, and the deaths to 2803, or an excess of 500 over the births. One death took place from small-pox, the only fatal case since 1885. Deaths from scarlatina, measles, and diseases of the respiratory organs were above the average.

SMALL-POX IN DUBLIN.

The outbreak of small-pox has not yet been stamped out, as most people believed, and I regret to state that five fresh cases of the disease have been admitted during the past week to Cork-street Fever Hospital. One of these cases came from Howth.

IRISH POOR LAW.

A comprehensive and general manual for Poor-law guardians and their officers has lately been issued by the Secretary of the Local Government Board for Ireland. It contains Acts for the Relief of the Destitute Poor in Ireland, the Public Health Acts, Labourers Acts, &c., and the general regulations of the Local Government Board. The work, which was urgently required, has been compiled by a thoroughly competent authority, and must be regarded as a standard of reference on the subjects of which it treats.

Dublin, Jan. 24th.

BELFAST.

(From our own Correspondent.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.

FROM the fifth annual report read at the meeting of the supporters of this charity, held in Belfast on January 17th, I learn that during the past year there were 696 new cases under treatment. The number of patients who have been relieved is now 3326. There is a very slight balance due to the treasurer. Several of the Belfast merchants whose *employés* have received treatment at the hospital have during the past year subscribed to the funds of this charity. In the medical report read by one of the members of the staff—Dr. Simpson—the hope is expressed that the benevolent public will be induced to erect, in some warm and sheltered locality, a cottage hospital on a similar plan to that adopted at Ventnor, Isle of Wight. It seems that in Belfast the deaths from diseases of the chest are nearly half of the total number of diseases of all classes of the community.

THE BELFAST HOSPITAL FOR SICK CHILDREN.

From the fifteenth annual report, read at the meeting of the supporters of this very popular charity on Jan. 20th, I gather that during the past year 318 patients were admitted into the hospital, while during the same period there were 9994 extern cases. The entire sanitary arrangements of the hospital have been overhauled and rearranged, so that it is now in a very satisfactory condition. During the year the sum of £2550 has been collected to help in erecting the Queen Victoria Convalescent Home for Children in connexion with the hospital. In March, 1887, the Board of Management and the medical and surgical staff of the hospital forwarded a memorial to the Senate of the Royal University, requesting that the hospital should be recognised as a teaching institution for students in connexion with the University, and it would appear the matter is still under consideration. During the present winter session a large number of the senior students are attending the hospital cliniques. The ordinary income for the year 1887 amounted to £929 12*s.* 9*d.*, and the expenditure to £1066 4*s.* 8*d.*

DEATH OF DAVID JOHN HAMILTON, M.R.C.S.

The death is announced of Mr. David J. Hamilton, of Cookstown, co. Tyrone, in his seventieth year. Mr. Hamilton was for a lengthened period one of the principal medical men in Cookstown, where he was for forty-six years medical officer to the Union Workhouse and certifying factory surgeon. By his death the coronership of one of the districts of co. Tyrone becomes vacant. Mr. Hamilton was buried on Monday.

HEALTH OF BELFAST.

The death-rate last week was 37·9, a little higher than that of the preceding week, which is still high as compared with the rates in other large towns. In Armagh the rate is given as 41·3, in Cork 42·8, in Dundalk 48·0, and in Limerick 39·1. In Newry the death-rate from zymotic diseases was high, owing to the deaths from measles, which numbered 8. The 165 deaths from all causes in Belfast include 11 from measles, 3 from scarlatina, 15 from whooping-cough (an increase of 7 as compared with the previous week), 1 from simple continued fever, 3 from enteric fever, and 1 from diarrhœa. During the last quarter Lisburn has the low death-rate of 16·4, while that of Belfast was 29·2. In Belfast during the last quarter 94 deaths are attributed to measles, 39 to scarlatina, 6 to typhus, 29 to enteric fever, and 13 to simple continued and ill-defined fever.

Belfast, Jan. 24th.

THE SMALL-POX EPIDEMIC IN TASMANIA.—The Acting Agent-General for Tasmania has received a despatch from the Government of that colony informing him that small-pox has been completely stamped out in the island, and that the temporary small-pox hospitals and quarantine stations have been broken up and the materials of which they were composed destroyed. The neighbouring colonies have rescinded their proclamations declaring Tasmania an infected place, and confidence in regard to its advantages as a health resort appears to be restored.

PARIS.

(From our own Correspondent.)

PROFESSOR SÉE ON DISEASES OF THE STOMACH.

FOR the last few years the diagnosis of the diseases of the stomach, which appeared to be so well established, has entered a phase surrounded with difficulty and uncertainty. It has been found that the traditional methods of exploration, palpation, percussion, and the information furnished by patients, presented only probabilities. Such were the prefatory remarks made by Professor Germain Sée to a long communication he read before the Academy of Medicine last week. About eight years ago, in his treatise on the different forms of dyspepsia, the learned Professor showed that all maladies of the stomach that were not organic belonged to the class of dyspepsias, and that these latter affections were purely of a chemical order. It is, therefore, necessary that, in all maladies of the stomach the chemical composition of the gastric juice should be examined. It is thus that he ascertained that in cancer of the stomach hydrochloric acid is always diminished in quantity or altogether absent. He attaches the greatest importance to this sign, as he considers it almost pathognomonic of cancer of the stomach. In presence of this fact, after having given a full trial to the different tests employed till now for such a purpose, Professor Sée has found that the fluco-glycinate of vaniline is more certain and more expeditious than all the others. When two grammes of the fluco-glycinate of vaniline are dissolved with one gramme of vanilic acid, one drop of this solution is sufficient to reveal the smallest trace of the presence of a concentrated mineral acid. As the fluco-glycinate of vaniline acts only on hydrochloric acid, the mixture is immediately tinted of a bright-red colour, and at the same time crystals of the same tint are precipitated. Concentrated organic acids—for example, lactic acid or acetic acid—have no influence whatever on the colouring. Even the chlorides mixed with these acids produce no colouring whatever. To obtain the gastric juice Professor Sée employs Potain's aspirator, with which aspiration is practised forty-five minutes after a patient has ingested two hard-boiled eggs and drunk half a tumbler of water. By this means cancer of the stomach, which is always accompanied by a considerable diminution or absence of hydrochloric acid, may be diagnosed, though this condition may be found in certain forms of dyspepsia, named "mucous," and particularly those which result from inanition, marasmus, &c. From the above facts, the therapeutic indications may be reduced to three: "chlorohydrotherapy," "alkalinotherapy," and mechanical and physico-chemical evacuants. Professor Sée remarks that in his experience hydrochloric acid is rather too indiscriminately employed in dyspepsia, as there are some cases in which there is a hypersecretion of hydrochloric acid, which certainly is clearly a contra-indication for the administration of this substance. The quantity of acid present can only be ascertained by the introduction of a stomach tube. The veritable domain of chlorohydrotherapy is dyspepsia—that is, where the acid is in small quantity, or where the organic acids predominate. It is therefore indicated in mucous dyspepsia or in dilatations of the stomach. Alkalinotherapy is not discussed. The author finds that in general the dose of the alkaline employed is too feeble, and, as the object is to neutralise the excess of acid, alkalies should be freely administered. Evacuants are applicable to all the cases of atonic affections of the intestines and of the stomach. As regards diet, there are two articles which are commonly used with so little discrimination that they are believed to be really useful and applicable to every patient suffering from dyspepsia; these are milk and raw or underdone meat. The former is prescribed *urbi et orbi*, and has become the general panacea for all affections of the stomach, even including dilatation, and as the quantity of milk taken is generally very great this abnormal condition must necessarily be aggravated. It is only in ulcer of the stomach that milk is indicated, for even in cancer of that organ milk would be injurious, as it is not digested. The indiscriminate use of meat is also very injurious. In the cases where this is employed, vegetables, bread, and farinaceous substances, are generally suppressed, much to the detriment of the patient in many cases. The total suppression of an

amylaceous diet, as is generally recommended in the above circumstances, is altogether unjustifiable, and particularly in cancer of the stomach where there is total absence of hydrochloric acid, in which case an amylaceous diet which would be at the same time nitrogenous, would be incontestably useful. Inversely, the amylaceous diet, should be severely forbidden in all cases of dyspepsia resulting from a hypersecretion of hydrochloric acid, as the excess of this acid may determine spasm of the pylorus and retain the amylaceous substances in the stomach or cause exaggerated contractions of its muscles, which would hasten before the time required the expulsion of the aliments incompletely transformed. In these cases fish may freely be taken, and meat of all kinds, and even ham, may be found useful.

Paris, Jan. 21th.

ROYAL COLLEGE OF PHYSICIANS.

A COMITIA of the Fellows was held on the 26th inst., Sir W. Jenner, Bart., President of the College, in the chair. The attendance of Fellows was exceptionally large.

At the commencement of the proceedings a letter was read from the Editors of THE LANCET requesting that a shorthand reporter might be present on this occasion, as it was understood that a question of exceptional interest to the profession at large was to be discussed. The request seemed to create some surprise, but was not made the subject of a motion.

Eight gentlemen were admitted to the Membership, and a large number of licences were granted.

Drs. Handfield Jones, Pavy, Church, Pye-Smith, and E. Long Fox were elected to serve on the Council.

It was resolved, on the motion of the Treasurer:—"That in recognition of the protection afforded to this College by the police during the recent riotous proceedings in Trafalgar-square, and of the admirable discipline exhibited by that force under prolonged provocation, the College do vote the sum of twenty-five guineas as a contribution towards the funds of the Metropolitan Police Convalescent Home, or towards any project approved by the Chief Commissioner of Police."

The annual report of the Examiners was read, containing a statement of the number of candidates examined during the past year in the several examinations.

A report was read from the Committee of Management, and the recommendation made therein was adopted—viz., that the University of Otago, Dunedin., N.Z., be recognised by the two Colleges as a place of study for candidates.

A report from the Colleges' Land Committee was received and adopted. It dealt with the proposed buildings to be erected on the Embankment for purposes of research, and concluded with the recommendation to refer the question of the fittings to a committee of five Fellows.

A communication was read from the Moxon Memorial Committee containing details respecting the Gold Medal to be awarded by the College triennially for Clinical Research.

It was moved by the Senior Censor, seconded by Dr. Andrew:—"That it is undesirable that any Fellow, Member, or Licentiate of the College should contribute articles on professional subjects to journals professing to supply medical knowledge to the general public, or should in any way advertise himself or permit himself to be advertised in such journals."

The omission of the words, "in such journals," at the end of the resolution was moved as an amendment, and the debate was eventually adjourned.

THE SERVICES.

WAR OFFICE.—Brigade of Foot Guards: Surgeon-Major George Perry, Coldstream Guards, to be Brigade Surgeon, ranking as Lieutenant-Colonel, vice W. R. Lane, Scots Guards, retired (dated Dec. 31st, 1887.)

ARMY MEDICAL STAFF.—Surgeon-Major Chas. Stratherne Close, to be Brigade Surgeon, ranking as Lieutenant-Colonel, vice Henry Carden Herbert, M.D., F.R.C.S.I., retired (dated Dec. 21st, 1887); Surgeon-Major D. Campbell Williamson Heather is granted retired pay (dated Jan. 25th, 1888); Surgeon Stephen Lawson Deeble has been placed upon temporary half-pay on account of ill-health (dated Jan. 19th, 1888).

ADMIRALTY.—Mr. Samuel Keays, Surgeon of the Royal Naval Hospital at Stonehouse, has been appointed to succeed Mr. John Brownrigg Bookey, who died a fortnight ago, as Surgeon of Devonport Dockyard.

The following appointments have been made:—Surgeon William J. Golbourne, to the *Excellent;* Surgeon J. H. Stenhouse, to the *Boscawen;* Surgeon George Wilson, to the *Britannia;* Surgeon D. P. J. M'Nabb, to the *Impregnable;* Surgeon John E. Webb, to the *Indus;* Surgeon George Hewlatt, to Plymouth Hospital; Surgeon Charles S. Woodwright, to the *Asia*, additional; Surgeon Michael O'Brien, to Plymouth Hospital; Surgeon William A. Whitelegge, to the *Pembroke*, additional; Surgeon Charles W. Sharple, to Plymouth Hospital; Surgeon John Casin, to the *Cambridge;* and Surgeon John Andrews, to the *Mistletoe.*

ARTILLERY VOLUNTEERS.—2nd Kent: Surgeon and Honorary Surgeon-Major W. C. Wise resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the corps on his retirement (dated Jan. 21st, 1888).

RIFLE VOLUNTEERS.—1st Cinque Ports: Charles Reginald Ellgood, M.D., to be Acting Surgeon (dated Jan. 21st, 1888).—13th Middlesex (Queen's Westminster): Harold Antoine Des Vœux, Gent., to be Acting Surgeon (dated Jan. 21st, 1888).—1st (Pembrokeshire) Volunteer Battalion, the Welsh Regiment: Surgeon G. Griffiths is granted the honorary rank of Surgeon-Major (dated Jan. 21st, 1888).

Obituary.

SAMUEL HEY, F.R.C.S. ENG., L.S.A.

THE Heys of Leeds have been a synonym for the surgery of Leeds for a hundred and fifty years, and the survival of one of them—a grandnephew of William Hey, *primus*—till the 21st inst., at the age of seventy-three, is an interesting fact. The persistence of life and character through 150 years, in spite of a phthisical element in the family of the first Mr. Hey, is a fact to be noted in biology. The leading features in the life which has just closed—that of Mr. Samuel Hey—are well touched by a friendly hand in the *Yorkshire Post.* It need not be maintained that Mr. Samuel Hey had all the surgical genius and force of character of his grandfather, but the notice of his life to which we have referred, and to which we are chiefly indebted for our facts, shows that he was well worthy to stand in the succession to his honoured name. His early education was of the ordinary character from twelve to sixteen, and was conducted by the Rev. Joseph Cox of Gainsborough. He began his medical education by pupilage to his uncle; after this he studied in London at University College and at St. George's, under Brodie, Sharpey, and others. Finally, he spent three years in the medical schools of France and Germany, and so acquired a knowledge of the languages, which was of great value to him. This was a varied and fine training. Opinion will differ as to the value of its different parts, but he "throughout his whole life," says the biographer, whose individuality may be guessed, "maintained that pupilage was the most useful part of his professional education"—an opinion worthy of notice by those educationists who decry pupilage as useless, if not worse.

Mr. Hey, son of the Rev. Samuel Hey, vicar of Ockbrook, in Derbyshire, was, as we have said above, grandnephew of William Hey (*primus*) of Leeds. He was born on Aug. 22nd, 1815. His famous grandfather was then alive, and lived four years after that. In or about 1840 Mr. Hey joined his cousin, Mr. William Hey (the third), in practice in Leeds, and was soon after a party, with Thackeray, Teale, Williams, Price, and others, to the institution of the Leeds School of Medicine, which has been so well sustained. He acted at different times as Lecturer on Physiology, Lecturer on Surgery, and treasurer to the School, and always took the deepest interest in its prosperity. Not only as a surgeon and a teacher of surgery, but as a devout and highly honourable and religious man, he filled a conspicuous place in Leeds and its neighbourhood. Three generations of the family thus carry us over 150 years of Leeds' medical history. Mr. William Hey began practice in that town about the year 1760—seven years before the Leeds Infirmary was established, and when there

was no public institution for the relief of the sick in the town. When Mr. Samuel Hey began practice in Leeds, in 1840, a medical school there had not yet been created. The subject of our notice was twice married. He leaves one son and three daughters. For the time being the medical world of Leeds is without a Hey.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentleman having passed the necessary examination, and having since attained the legal age (twenty-five years), has been, at an extraordinary meeting of the Council, granted his diploma as a Fellow of the College:—

Charles Leopold Hudson, L.R.C.P.Lond., L.S.A., Middlesex Hospital. Diploma of Membership dated Jan. 28th, 1884; examination for the Fellowship, Nov. 1885.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Charles Couper Cripps, M.D., B.S., M.R.C.S., has been awarded the gold medal for the best essay presented at the examinations for the degree of Doctor in Medicine of the University of Durham during the year 1887.

ANOTHER FOOTBALL ACCIDENT.—During a football match, under Association rules, at Winchester, on the 20th inst., between the Hants Depôt and the Rifle Brigade, Captain Hornby and Lieut. Westmorland collided violently, with the result that the Captain's leg was broken a few inches above the ankle.

METROPOLITAN HOSPITAL.—The annual general meeting of the governors of this institution was held this week, when a report congratulating the governors on the completion of all the new buildings, and referring to the great success that has attended the provident department of the hospital since it had been opened in November last, was adopted.

BEQUESTS.—Miss Elizabeth Norman has bequeathed £100 to the Adelaide Hospital, Dublin.—Mr. H. Blayney has left £1500 to St. Vincent's and £6000 to the Mater Misericordiæ Hospitals.—The trustees of the Bolton Infirmary have received, under the will of the late Miss Alice Howe of Blackpool, £3500, and become entitled to a further sum of £4500 on the death of a person now aged forty-five years.

BIRMINGHAM CHILDREN'S HOSPITAL.—At the annual meeting of the supporters of this institution on the 23rd inst., it was reported that the number of patients treated during the year had been 14,104, showing a decrease of about 500 from the preceding year, but 400 more than in 1885. The total income amounted to £4300, and the average cost of patients was half-a-crown per week each.

THE CHOLERA EPIDEMIC IN CHILI.—A telegram from Lima states that a physician, who was despatched by the Peruvian Government to study the cholera in Chili, reports that, on the whole, the epidemic is slightly declining. One hundred cases occur daily at Valparaiso, and from Dec. 15th to Jan. 1st there were in that city 1288 cases, of which 644 were fatal.

THE CITY DISPENSARY.—The ninety-ninth annual meeting of the City Dispensary was held on the 18th inst., at the Dispensary, Watling-street, Mr. Thomas Spreckley (treasurer) presiding. The financial statement furnished by the report was somewhat discouraging, the committee having during the past year to obtain a loan of £200 from the treasurer. In other respects the report was satisfactory.

RABIES IN RICHMOND PARK.—At the Richmond Petty Sessons on the 25th inst., the official veterinary inspector of the district reported that rabies had again broken out among the deer in Richmond Park. No other case has been reported since Sept. 24th of last year. It was stated that the deer were still isolated, and much surprise was expressed at this further outbreak, which, it is feared, may extend.

ENGLISH MEDICINE IN CHINA.—Intelligence has been received from China that the Prime Minister, Prince Chün, who is at present ill, has summoned Dr. Manson from Hong Kong to act as his medical adviser. The Prince's Chinese medical attendant was treating his patient with otter's liver, procured from Nankin. This is believed to be the first occasion on which a foreign physician has attended a member of the Chinese Imperial House.

THE annual ball in aid of the funds of the Newark Hospital and Dispensary was held on the 19th inst.

THE salary of Mr. H. E. Hackett, medical officer for part of Gorton, Chorlton Union, has been increased from £60 to £100 per annum.

IT is announced that Professor Virchow will accompany Dr. Schliemann on his archæological excursion in Upper Egypt in February.

WESTMINSTER SCHOOL.—It will be interesting to those members of our profession who have been educated at this well-known public school, and more particularly to such as happen to be also Freemasons, to learn that on the 20th inst. the "Old Westminsters'" Lodge, No. 2233, was successfully inaugurated at the Café Royal, Regent-street. The names of three members of the medical profession appear in the list of founders of the Lodge, membership of which is restricted exclusively to those who have been educated at Westminster School.

DELIBERATE SUICIDE BY ALCOHOL.—A man in Warsaw determined to commit suicide by drinking spirits. He began at 3 P.M., and every hour wrote down his sensations. Thus at 6 P.M. he wrote that he had a "pleasant feeling of intoxication," and at 9 that he could "scarcely write," adding "the end will soon come." About midnight he lost all consciousness, and shortly afterwards expired. The medical man who was summoned found all the empty bottles and the memoranda, but the patient was too near death for any successful effort to save him.

REGULATION OF THE ARTIFICIAL MINERAL WATER TRADE.—In consequence of the unsatisfactory way in which the artificial mineral water trade is carried on, the Berlin municipal authorities have ordered that all manufactories of artificial mineral water shall be rigidly inspected. Some regulations are issued to which manufacturers must conform—e.g., the buildings must be well ventilated, and only such saline substances as will pass the tests laid down in the Pharmacopœia used. The machinery, too, is to be regularly examined and severely tested.

DISINFECTION APPARATUS IN MILAN.—Milan has just contributed to hygiene an apparatus for the disinfection of clothes and such household gear as may harbour the germs of disease. The apparatus professes in twenty minutes to impregnate with moist heat any object of the kind, however apparently impermeable to its passage; and, at a temperature of 110° C. maintained for a given time, to destroy effectually any disease-producing germ whatever. Experiments with it were made on mattresses and on clothes infected with small-pox, and subsequent examination, conducted with special care, demonstrated the complete sterilisation of the variolous germs. Larini, Nathan, and Co. are the patentees.

WOODHALL SPA.—Woodhall Spa, near Lincoln, has been during the past year greatly developed, and can now fully compete with many of the continental spas in its convenience and accommodation for visitors. The new baths and pump-room, which have just been completed, have been erected under the superintendence of Major Davis, F.S.A., of Bath, who, it may be remembered, was some two years ago commissioned by the corporation of Bath to make a tour of the principal European bathing establishments previously to the erection of their new premises. Woodhall is fitted up with every modern appliance and convenience; the building estate is being rapidly developed, and the hotel accommodation has been extended. Plans of a hospital have also been prepared.

DEATH OF MR. THOMAS GODART.—We regret to learn that Mr. Thomas Godart, late librarian of St. Bartholomew's Hospital, who left England for Sydney only six months since, died suddenly in that city from an internal rupture on Nov. 5th, after but a few hours' illness. Mr. Godart's connexion with St. Bartholomew's Hospital in the double capacity of librarian and pathological artist extended over more than thirty-four years. His genial manners and ready courtesy won for him during that long period the friendship of all the members of the staff, and also of large numbers of the successive generations of students. The collections of the hospital were enriched by thousands of his pathological drawings, and his skill in this respect was widely known and highly esteemed. He was no less successful in illustrating popular text-books, such as Holden's Osteology. The news of his sudden decease will cause regret to the very wide circle of his acquaintance in the medical profession.

NORTH-WESTERN ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—At a meeting of the members of this Association on the 12th inst., Dr. Tatham in the chair, a paper on the "City of Liverpool Meat Supply, and the Method of Supervision thereof," was read by Dr. E. W. Hope. A discussion followed, in which several members took part, and the opinion of the meeting was that the continued existence of private slaughter-houses was a crying evil and a danger to the community. A resolution was afterwards passed calling the attention of the public to the prevalence of small-pox in Sheffield, and advising how the spread of the disease to other towns may be prevented.

CANADIAN MUNIFICENCE.—A Board of Governors, with the Hon. J. J. C. Abbott, Q.C., as President, has been organised under a charter obtained during the last session of the Dominion Parliament of Canada, for the constitution of the Royal Victoria Hospital about to be erected for the city of Montreal through the munificence of Sir George Stephen, Bart., President and Director of the Canadian Pacific Railway, and Sir Donald Smith, K.C.M.G., M.P., also a Director of the Canadian Pacific Railway and of the Hudson Bay Company. These gentlemen have given one million dollars for the purposes of the foundation of the institution, and the corporation of the city has granted a site for the new building, about twelve acres in extent. It is proposed that the establishment shall accommodate about 300 patients, and that, in addition to the ordinary requirements of a hospital of that extent, there shall be a training school for nurses, a medical school, and an out-patient department. Mr. H. Saxon Snell, F.R.I.B.A., of London, has been requested by the Board of Governors to prepare a design and direct the construction of the building.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly Court of the Directors of this Society was held on Jan. 11th, Mr. Tegart, V.P., in the chair. Two new members were elected, the deaths of five were reported, and the resignation of two others accepted. Grants were made to the amount of £1402 10s. to sixty-four widows, seven orphans, and three orphans on the Copeland Fund. An application was read for a grant from a widow for herself and two children, and attention was given. The expenses of the quarter were £61. On the announcement of the death of Sir George Burrows, late President, the following resolution was passed, to be entered on the Minutes of the Society: "That the directors desire to express their deep regret at the death of their late President, Sir George Burrows, and their grateful sense of the eminent services which he rendered to the Society during thirty-five years in which he was a member of the Court, for seventeen of which he was its President. The records of the Society show that there have been few to whose energy and good judgment it owes more than it does to those of Sir George Burrows and his father, Dr. George Mac Burrows, who became a member of the Society in 1800, and was one of its vice-presidents at the time of his death. Sir George Burrows had been fifty-eight years a member of the Society." The treasurer announced to the meeting that the small sum of £10 left to the Society by its first secretary, Mr. Chamberlaine, had now reached the desired amount of £100, and, in accordance with the terms of the request, the interest would now be devoted to providing a frugal supper for the treasurer, auditors, and secretary at the half-yearly audits.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ABBOTT, CHARLES EDWARD, L.K.Q.C.P.I., M.R.C.S., has been re-appointed Medical Officer of Health for the Braintree Rural Sanitary District, Essex, for one year; also appointed Medical Officer of Health for the Braintree Urban Sanitary District for one year, vice Harrison, resigned.

AVERILL, C., M.R.C.S., L.S.A., has been appointed Senior House-Surgeon to the Macclesfield Infirmary.

BERRY, WALTER, M.D., M.R.C.S., has been appointed Medical Officer for the Kessingland District of the Mutford and Lothingland Incorporation.

BEVERLEY, W. H., L.R.C.P.Lond., F.R.C.S.Ed., has been appointed Medical Officer for the Workhouse of the Scarborough Union.

BURTON, FREDK. W., L.R.C.P.Lond., M.R.C.S., has been appointed House-Physician to Addenbrooke's Hospital, Cambridge.

RUMBOLL, CHARLES F., M.D.Durh., M.R.C.S., has been appointed Medical Officer for the Third District of the Melksham Union.

SWABY-SMITH, C., M.R.C.P.Ed., M.R.C.S., has been appointed an Honorary Medical Officer to the Brixton &c. Dispensary.

WALKER, BENJAMIN, M.R.C.S., L.S.A., has been appointed Medical Officer for the Ravenstonedale District of the East Ward Union.

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House-Surgeon. Salary £90, with board, lodging, and washing, but no wine or beer.

BRISTOL EYE HOSPITAL.—Two Honorary Assistant Surgeons.

CHORLTON UNION, Manchester.—Second Assistant to the Resident Medical Officer at the Workhouse Hospitals, Withington. Salary £50 for six months, with furnished apartments and attendance in the workhouse.

MENSTON ASYLUM, near Leeds.—Medical Superintendent. Salary £400 per annum, with board and furnished residence.

NORFOLK AND NORWICH HOSPITAL.—Assistant to House-Surgeon. Board, lodging, and washing provided, but no salary.

NORTH-WEST LONDON HOSPITAL, Kentish-town-road.—Assistant Physician.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square.—Two Assistant Medical Officers.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Quay-street, Manchester.—Honorary Surgeon.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House-Surgeon. Salary 60 guineas per annum, with residence.

WORCESTER AMALGAMATED FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Senior Medical Officer. Salary, with residence, £200 per annum, with a portion of the midwifery fees; also £30 per annum for cab hire, and £10 per annum for coals.

YORK DISPENSARY.—Three Resident Medical Officers. Salary £130 per annum, with furnished apartments, coal, and gas.

Births, Marriages, and Deaths.

BIRTHS.

CASTOR.—On the 23rd ult., at Mahaica, British Guiana, the wife of C. F. Castor, M.B., F.R.G.S., of a son.

CONSTABLE.—On the 14th inst., at Kennington-park-road, the wife of Joseph J. Caffry Constable, M.D., of a son.

HARRIS.—On the 18th inst., at Harley-street, W., the wife of U. A. Carpenter Harris, M.R.C.S., L.D.S.Eng., of a son.

JACKSON.—On the 23rd inst., at West-green, Tottenham, the wife of J. W. Jackson, M.R.C.S., of a son.

MYDDELTON-GAVEY.—On the 24th inst., at 64, St. Matthew's-street, Ipswich, the wife of E. H. Myddelton-Gavey, M.R.C.S.Eng., of a son.

MARRIAGE.

SNADDEN—WHITEHEAD.—On the 4th inst., at St. James's Church, West Derby, Liverpool, James Snadden, M.B., C.M., to Marie, only daughter of W. M. B. Whitehead, Stoneycroft, Liverpool.

DEATHS.

CARTWRIGHT.—On the 19th inst., at Pinewood, Budleigh Salterton, John Cartwright, M.R.C.S. (formerly of Calne, Wilts), aged 74.

FOWLER.—On the 12th inst., at Ross, Herefordshire, Oliver Fowler, M.R.C.S., formerly of Kingsclere, Hants, aged 76.

HEY.—On the 22nd inst., at North-hill-road, Headingly, Leeds, Samuel Hey, J.P., F.R.C.S., aged 72.

KALLEY.—On the 17th inst., at Campo Verde, Tipperlinn-road, Edinburgh, after only a few hours' illness, Robert Reid Kalley, M.D., formerly of Madeira and Brazil.

LORN.—On the 22nd inst., at Drummond-place, Edinburgh, John Lorn, M.D., aged 72.

MARSH.—On the 18th inst., at 15, Fitzroy-square, London, W., Lory Marsh, M.D., M.R.C.P., of 49, Sackville-road, Hove, Brighton, aged 64.

MILLAR.—On the 19th inst., at Bethnall House, Cambridge-road, London, E., John Millar, L.R.C.P.Ed., in his 69th year. Friends will kindly accept this (the only) intimation.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, January 30.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M. and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M; Thursday, 2.30.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.

SOCIETY OF ARTS.—8 P.M. Mr. A. Gordon Salamon: Yeast, its Morphology and Culture (Cantor Lecture).

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Reginald Harrison: On Some Points in the Surgery of the Urinary Organs. (Lettsomian Lectures.)

Tuesday, January 31.

GUY'S HOSPITAL.—Operations, 1.30 P.M. and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday 3.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.

ROYAL INSTITUTION.—3 P.M. Mr. George John Romanes: Before and after Darwin.

SOCIETY OF ARTS.—8 P.M. Mr. J. Starkie Gardner: Monumental Use of Bronze.

Wednesday, February 1.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.

CHILDREN'S HOSPITAL, GREAT ORMOND-ST.—Operations, 9 A.M.; Saturday, same hour.

OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown. Dr. Herman: On the Effect of Ergot on the Involution of the Uterus. Annual Meeting. Election of officers and Council. The President (Dr. John Williams) will deliver the Annual Address.

SOCIETY OF ARTS.—8 P.M. Mr. D. F. Schloss: The Sweating System, or the Functions of the Middleman in Relation to Labour.

Thursday, February 2.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Ophthalmic Operations Friday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ROYAL INSTITUTION.—3 P.M. Mr. Hubert Herkomer: Art Education.

THE PARKES MUSEUM OF HYGIENE.—5 P.M. Prof. E. M. Crookshank: The History and Present Position of the Germ Theory of Disease.

Friday, February 3.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8.30 P.M. Patients and Specimens at 8 P.M.:—Mr. Percy Dunn: (1) Large Hydatid Cyst of Liver; (2) Secondary Deposit of Scirrhus in Liver; (3) Metastatic Abscess in Liver.—Mr. C. R. B. Keetley (President) will show Two cases of Nerve Suture.—Dr. Herringham will show a case of Peripheral Neuritis. Papers:—Dr. Richard Paramore: On Insomnia.—Mr. Jonathan Hutchinson, jun.: Syphilitic Disease of Liver and Spleen and its Symptoms.

ROYAL INSTITUTION.—9 P.M. Mr. Frank Crisp: Ancient Microscopes.

Saturday, February 4.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

ROYAL INSTITUTION.—3 P.M. The Right Hon. Lord Rayleigh: Experimental Optics.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, January 26th, 1888.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 9.30 A.M.
Jan. 20	30·51	S.W.	33	33	...	47	32	...	Overcast
,, 21	30·14	S.W.	47	46	...	50	33	·05	Raining
,, 22	30·09	W.	48	46	...	49	45	·25	Overcast
,, 23	30·29	N.W.	45	44	65	51	43	...	Cloudy
,, 24	30·46	W.	41	40	...	48	39	...	Cloudy
,, 25	30·37	S.W.	43	42	...	47	41	...	Overcast
,, 26	29·86	W.	47	43	...	47	42	...	Overcast

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

THE EXPULSION OF SISTERS OF MERCY FROM FRENCH HOSPITALS.

THE Sisters of Mercy will very shortly have been expelled from the last of the hospitals where they have always rendered great service as nurses. On the 22nd inst. they were, in compliance with a vote of the Municipal Council and a decision of the directors of the Assistance Publique, compelled to leave the Hospital of La Charité. Before the end of the year they will also have been driven out of the hospitals of St. Louis and the Hôtel Dieu. There, however, the secularising zeal of the Municipal Council must stop; for the other hospitals in which they still give their services must, according to the wills of the founders, continue to be under the direction of the religious orders.

Mr. T. Collins.—We are not aware of any evidence in favour of the notion.

Mr. Alex. M. Plant.—The form enclosed is that of an ordinary certificate of death.

THE APOTHECARIES' SOCIETY.

To the Editors of THE LANCET.

SIRS,—Could you kindly inform me through THE LANCET if the Secretary of the Society of Apothecaries is acting legally in refusing to allow me to enter for the examination for the medical licence granted by that body without paying an extra fee of four guineas above the fees I have already paid for the licence? By the rules under which I entered the examiners clearly stated that no extra fee should be charged for re-examination; and this was carried out until some few months ago, when new regulations were made, which should surely not affect candidates who entered under the old regulations. The solicitor to the Society takes no notice of my inquiry of him.

I am, Sirs, yours faithfully,

Jan. 23rd, 1888. L.R.C.P.

Mr. Stevens.—The fact of the establishment of the mortuary was mentioned in THE LANCET of Jan. 14th, page 101.

Dr. J. H. Parkinson.—We must decline.

THE LATE JAMES COWLES PRICHARD.

To the Editors of THE LANCET.

SIRS,—Will you kindly give publicity to the following question?

Where was James Cowles Prichard (who published a History of Man while practising at Bristol) buried? Was he a bachelor? A memoir of his life was written by Dr. Hodgkin, and published in the *Journal of the Ethnological Society*, of which Society he was an early president. Some of your readers may perhaps be able to inform me where I can procure this memoir.

I am, Sirs, yours faithfully,

Jan. 13th, 1888. R. S. S.

RUSSIAN STATISTICS OF PEASANT MARRIAGES.

A RUSSIAN district medical officer, who has collected and analysed the statistics of menstruation and marriage in his district, finds that the peasant girls commence to menstruate at the mean age of 15 years, 9 months, the brunettes two months earlier than the blondes. The mean age at which they marry is 18 years 5 months, but about 4 per cent. marry before menstruation. The first child is born at the mean interval of 1 year, 11 months, 20 days after marriage, and the sex is female in the majority of cases. One marriage out of nineteen is unfruitful. The mean number of children in the family is 8·5; the mean maternal age at which the last child is born is 38 years 5 months, that of the menopause being 44 years 2 months.

Dr. Bernard O'Connor.—The amenities are not perfect; but the case from the beginning was not promising of perfection in this respect. A casual meeting in the street is not a satisfactory way of beginning grave medical relations. When a masterful lady relative takes possession of a patient who so casually elects his consultant, instability is certain, and a medical man may almost be thankful to fall out of responsibility for such a case. The action of Dr. C—— might have been a little more considerate of the position of our correspondent, and of what is due to men in attendance. He should have been more determined not to see the case, except in consultation with our correspondent. But he clearly intended to be courteous, and his suggestion for a consultation with Dr. O'Connor is the only obvious piece of good sense and good manners in the case.

Fairplay.—The attention of the authorities of the Bodies from which the advertiser received his qualifications should be called to the unprofessional announcement.

Magistrate.—The case, with all the circumstances, should be submitted to an expert.

Mr. T. P. Lowe.—Yes, shortly.

ADVICE GRATIS TO ASSURANCE COMPANIES.

To the Editors of THE LANCET.

SIRS,—The following class of thing is probably sufficiently common to deserve comment; and it is desirable that medical men come to some agreement for united action in similar cases. I received from the —— Life Association a printed request, signed by a patient of mine, for answers to ten questions, six of them distinctly involving a professional opinion, and requiring considerable care and accuracy in the replies. The construction of this clever document is such that, had one signed it and chosen to claim a fee for so doing, the claim would have been barred against each of the parties interested. On the other hand, by throwing upon me the onus of a refusal, the Association would have me run the risk of offending a patient; the risk was, however, small in this case, as the patient is a professional man of high intelligence and has a keen sense of justice. But I wish more particularly to invite attention to the rottenness of the principle involved. The patient is not the person to whom one should look for the fee; the certificate is presumably of importance to the company, and they should, in common integrity, pay for it; if it is not a matter of importance to them, then to bother a medical man with the inquiry is a piece of supreme impertinence.

I append a copy of my letter (as courteous, I trust, as the occasion required) to the Secretary; the fact of my having received no answer to it is of itself an eloquent and far-reaching reply, which I publish for the information of my brother practitioners, who, having waste paper baskets, may receive similar requests from this Company.

I am, Sirs, yours truly,
Charlwood-st., S.W., January, 1888. ALFRED LEACH, L.R.C.S., &c.

"To the Secretary, —— Life Association.

"SIR,—I am in receipt through your favour of a request for a certificate in the case of a patient, Mr. ——. I beg leave to point out that the form and schedule—in other respects very complete—do not contain the usual reference to a professional fee for the medical opinion asked for. From a careful perusal of the document, I conclude and, subject to correction, believe that the payment of a fee would be optional—in fact, a gratuity dependent upon the degree of satisfaction my certificate might afford to the applicant. I have consulted with professional friends, and we agree that such terms, being adverse to the interests of the Association and contrary to the usages of the medical profession, cannot be intended by you for my acceptance, and that probably an error has occurred, which you will kindly rectify." (Signed.)

UNIVERSITY OF DURHAM SECOND M.B.

To the Editors of THE LANCET.

SIRS,—I venture through the medium of your columns to ask the Calendar Committee of the University of Durham College of Medicine which they regard the "more important drugs," &c., knowledge of which is required for the second M.B.? An early intimation through THE LANCET would increase the number of attending candidates next April by two. To save space and time they might adopt the same list as the Conjoint Board or the University of Cambridge.

Apologising for troubling the Committee, but at the same time assuring them that by taking notice of this communication they will confer a great boon on a great number of students,

I am, Sirs, yours faithfully,
January, 1888. ANXIOUS.

CHINESE DOCTORS.

THE arbitrary power exercised by magistrates over the Chinese native doctors is illustrated by the following incident at Shanghai. The new district magistrate there lately sent one of his messengers to a well-known doctor with a fee of 600 cash (about half-a-crown), to ask him to visit a patient. The messenger was ordered not to say he came from the magistrate. The doctor thought that the patient was not an official, and refused to go. A second time the messenger was sent, and again the doctor refused to attend, stating that the fee was too small, and that he would not go for three times the amount. The third time the magistrate sent his own card, and the doctor at once hastened to see him. Questioned why he had not come in the first instance, he made various unavailing excuses, the magistrate hastily observing that in future he would reduce the doctor's fees to such a low figure that it would not be worth his while to continue practising, and gave him the alternative of paying 5000 taels (£1250) to the Yellow River Fund. This amercement was ultimately reduced to 3000 taels (£750), and the doctor, it is recorded, was well pleased to get off with this mitigated penalty.

Cautio.—Our correspondent does not seem to realise the impossibility of assimilating in every respect the conditions of service of combatant and medical officers. Were the authorities to attempt such a task, we feel sure he would be among the first to protest energetically against it in the interests of the Medical Department.

E. E. P.—Will our correspondent be good enough to indicate the authority for the phrase mentioned?

Dr. Leiser.—We have devoted much space to the discussion of the subject.

CASE OF MAGGOTS IN THE EAR.

To the Editors of THE LANCET.

SIRS,—The following case, which is similar to that recorded in your issue of the 14th inst. (page 67), may perhaps be deemed worthy of a place in your journal.

L. M—— presented himself at 7 o'clock one morning last summer, stating that a fly had flown into his ear whilst he was working in the hayfield, and that whilst trying to get it out he had crushed it, and it had blown his ear. I examined the ear (the left) with the auriscope, and found the whole field of vision a sea of undulations alive with maggots twisting in all directions. With a syringe and weak solution of perchloride of mercury I washed out seven maggots. The ear was very much inflamed and devoid of cerumen, which was, however, very abundant in the right. He stated that he had a few summers before been subjected to the same misfortune, when as many as thirteen maggots had been removed. The presence of the maggots had caused great pain all night, which had driven him to seek early relief in the morning. The ear gave him no further trouble.

I am, Sirs, yours faithfully,
Huntingdon, Jan. 16th, 1888. C. W. SESSIONS BARRETT, M.B.

To the Editors of THE LANCET.

SIRS,—With reference to the case of maggots in the ear reported in your issue of to-day's date, permit me to say that a similar experience occurred to me in Egypt. A Greek camp follower applied to me for relief from persistent earache, and on examination I found both meatuses nearly filled with these creatures. One was attached by its head, and was removed with some little difficulty; but syringing soon disposed of the others. In a country so infested with flies it can be easily understood that a neglect of cleanliness would soon produce such unwelcome guests; but I never saw a case among our own troops, though it was frequently necessary to remove the flies themselves which had accidentally gained an entrance. A little oil and subsequent syringing with water was generally all that was required.

I am, Sirs, yours faithfully,
E. M. WILSON,
Chatham, Jan. 14th, 1888. Surgeon, Medical Staff.

REPAYMENT OF INCOME TAX.

To the Editors of THE LANCET.

SIRS,—Allow us to mention in your columns a most important point we have just carried. A doctor in the north of London was last year assessed at £350. This year the notice came in for £400. This was for the purpose of not allowing him the abatement on £120. The surveyor had, however, gone a little too far. We made out the claimant's statement on our special forms, and the assessment was reduced on appeal to £300—not only a saving of tax on £100, but giving a right to the abatement on £120; consequently, £6 8*s.* 4*d.* in pocket this year. But the point we wish to call attention to is this. We advised him at once to make a claim for repayment of tax overpaid last year, basing the claim on the fact that he had paid on £350, whereas he had now proved to the satisfaction of the General Commissioners that his average had only been £300. We have just heard from him that he has had a post-office order for the amount. This is the first case thus decided; and our being able to cite it in future claims of the same kind will give us a great advantage, should other surveyors rebel against it.

We are, Sirs, your obedient servants,
Colville-terrace, W. THE INCOME TAX REPAYMENT AGENCY.

NEW APPARATUS FOR TRANSMITTING FORCE.

SOME few months ago there was exhibited at the reading-room of the Society of Arts a model of an apparatus for transmitting force between bodies moving at greatly varying velocities without the unpleasant and sometimes serious accompanying disadvantage of a violent collision. The method is the invention of an engineering professor, M. Raymond Snyers of the Louvain University, and consists in furnishing the contact surfaces with steel brushes, which by the entanglement of what may be by an intelligible figure of speech called their "bristles" are enabled to grip one another in the act of sliding over one another face to face. It is manifest that in this way the swiftest motion may be imparted gradually to a perfectly stationary body, and that a maximum of shock can be arranged for which can never be exceeded, be the impelling force and velocity what they may. The inventor has in view chiefly the requirements of quickly moving lifts, railway trains, and other bodies moving at high speed and with great momentum; and it is plain that if it be possible to produce in this way an effective brake, or to obtain an automatic working of railway signals, he will have done much to minimise some of the most serious perils which at present threaten life and limb in the pursuit of industrial occupations.

Mr. Laird-Cox.—We consider our correspondent fully entitled to his fee, as he had not received any official notice that the name of the pauper had been removed from his permanent list. Had he, on the other hand, refused to attend when sent for, he would have laid himself open to a charge of neglect. An appeal should be made to the central authority; failing that, a county-court summons might be obtained.

MIDWIFERY FORCEPS.

To the Editors of THE LANCET.

SIRS,—In your issue of the 14th inst. I see a description of forceps by Dr. G. F. Wales. I recognise in his instrument the axis-traction arrangement and handle (minus anterior and posterior shoulders) peculiar to my simplified axis-traction forceps designed in the latter part of 1886, and exhibited by Professor Dill at the spring meeting of the Ulster Medical Society, 1887. I am, Sirs, yours faithfully,

Belfast, Jan. 23rd, 1888. J. SMITH.

Country Practitioner.—"Myxœdema" is defined by an authority on the subject as a name given to a progressive disease, in which the tissues of the body are invaded by a jelly-like, mucus-yielding dropsy, unaccompanied by albuminuria or other signs of primary affection of the kidney.

Mr. E. W. B. Garlike.—The address is given in our report published on the 7th inst., page 38.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. F. Eve, London; Dr. W. Robertson, Newcastle-on-Tyne; Dr. De Havilland Hall, London; Dr. Klein, London; Dr. Harkin, Belfast; Mr. James H. Parkinson, Sacramento; Sir Morell Mackenzie, London; Mr. John Ward, Leek; Dr. B. O'Connor, London; Mr. Paterson; Dr. Frederick Taylor; Mr. Macmeikan, London; Mr. E. East, London; Mr. Thomas Smith, London; Mr. H. H. Clutton; Dr. Handford, Nottingham; Dr. A. G. Auld, Edinburgh; Mr. G. R. Nelson, Bridlington Quay; Mr. L. Knaggs, Huddersfield; Mr. Thorold, Norwich; Messrs. Sutton and Co., Reading; Mr. Simpson, Epperstone; Messrs. W. H. Smith and Son, London; Dr. L. Armstrong, Newcastle-on-Tyne; Mr. Covey, East Grinstead; Messrs. Maconochie, Lowestoft; Mr. Laird-Cox, Bishop's Castle; Dr. Whitson, Glasgow; Mr. Beresford; Messrs. Haddon and Son; Mr. Plant, Wordesley; Mr. Taylor, Hanley; Messrs. Burgoyne and Co., London; Mr. J. Odling, London; Mr. Pratt; Messrs. Woolley and Co., Manchester; Dr. C. F. Knight, Dublin; Messrs. Hockby and Son; Dr. W. Pasteur, London; Messrs. Lœflund; Messrs. Isaacs and Co.; Dr. W. J. Collins, London; Mr. Thackeray; Messrs. Calvert and Co., London; Mr. Whitcombe, Birmingham; Mr. Williams, Truro; Mr. Marsh, Willenhall; Mr. Thorburn, Manchester; Mr. Adamson Coram, Bristol; Mr. Wilson, Langholm; Dr. Bayle; Mr. Robertson, Coleraine; Mr. Mulliner, Liverpool; Miss Moorhouse; Mrs. Harland, Eastbourne; Mr. Newsholme, Sheffield; Mr. Alcock; Messrs. Price and Co.; Mrs. Corbett, Harlesden; Mr. Sheldon; Dr. Bramwell, North Shields; Mr. Willey, Sheffield; Dr. Benthall, Fairholme; Dr. Morgan, Willenhall; Mr. Mercier, Leicester; Mrs. Pratt, Cardiff; Dr. Maclean, Swindon; Mr. Hawkins; Mr. Millar; Mr. Bowlby, London; Dr. Hale White, London; Dr. G. Harley, London; Mr. Ellis, London; Dr. R. Kirk, Partick; Dr. Weaver, Southport; Mr. Nairne, Glasgow; Mr. A. Leach, London; Mr. North, York; Dr. Leiser, London; Dr. Sbettle, Reading; Mr. P. E. Hill, Crickhowell; Mr. W. Whitehead, Manchester; Mr. J. Smith, Belfast; Mr. Blackett, London; Dr. Maccall, Morecambe; Mr. Haviland, Douglas; Mr. Ritchie; Messrs. Liberty and Co., London; Mr. Brown, Westgate-on-Sea; Messrs. Lee and Nightingale, Liverpool; Dr. Clippingdale, London; Messrs. Fowler and Co.; Mr. R. Lovett, London; Mr. Browning; Messrs. Trübner and Co., London; Mr. Kimpton; Mr. Nance, Eccleshall; Messrs. Stern, London; Mr. Maw, Bradford; Mr. Scott, Manchester; Mr. Riddle, Bath; Mr. Day, Keighley; Xerxes; F. L. S.; M.R.C.S.; S. J.; Lady Superintendent, Bath; Regina; Anxious; Cautio; Fairplay.

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